IV.20 VISUAL RESOURCES

The analysis in this chapter addresses potential impacts to visual resources from the No Action Alternative and implementation of the various action alternatives of the Desert Renewable Energy Conservation Plan (DRECP) Bureau of Land Management (BLM) Land Use Plan Amendment (LUPA).

The analysis includes impacts from renewable energy and transmission development activities and from BLM LUPA decisions proposed under each alternative, including decisions on Visual Resource Management (VRM) Class assignments.

The Proposed LUPA would incentivize the development and operation of renewable energy facilities and transmission lines within Development Focus Areas (DFAs) and allow them in Variance Process Lands and unallocated lands.

The VRM Class designations on BLM-administered lands indicate the level of visual change allowed for development within each VRM Class. The primary consideration in quantifying visual impacts at a programmatic level of analysis is the extent to which the visual resource elements described in Volume III, Chapter III.20, Visual Resources, would be affected by the proposed DFAs, transmission, and BLM land designations and management.

IV.20.1 Approach to Impact Analysis

This chapter discusses the impacts of BLM-administered conservation and renewable energy DFAs and approved transmission corridors to visual resources for each alternative. Visual impacts from development on BLM-administered lands are analyzed using BLM's VRM system. This approach considers scenic quality, viewer sensitivity, and distance zones when conducting a Visual Resource Inventory (VRI). This inventory process provides a detailed description of existing conditions, but does not prescribe management actions or objectives. BLM considers information from the inventory when assigning VRM classifications to specific geographic areas. The VRM Classes prescribe management objectives for proposed actions.

The approach to analysis of visual impacts used in this Programmatic Environmental Impact Statement (PEIS) identifies the amount of BLM land that would be in various VRI and VRM classifications for each alternative and the extent to which those lands are or would be under BLM land designations or available for renewable energy development. Consideration is also given to visually sensitive elements such as national scenic byways, national trails, and wild and scenic rivers. This approach is used to understand the potential impact on visual resources and their differences under each alternative.

Specific projects or sites resulting from a proposed planning direction are not identified or under review in this PEIS. Future projects constructed pursuant to the Proposed LUPA approval will be reviewed when they are proposed, on a case-by-case basis and on a site-specific scale, to determine their consistency with the adopted VRM objectives.

Appendix R2.20 includes tables to support this chapter.

IV.20.2 Typical Impacts Common to All Action Alternatives

This section describes visual impacts typically associated with solar, wind, and geothermal energy development, and transmission requirements (rights-of-way, major transmission lines, generator tie-lines [i.e., electrical lines connecting energy facilities to the larger electric grid], and substations). The impact of a given project would depend upon the intensity of project-specific resource development, including energy type, technologies used, site layout, scale, location, impact minimization strategies employed, timing and degree of disturbance, complexity of the facilities, and other factors analyzed at the project level.

The analysis in this programmatic EIS draws on information in other environmental documents. Typical effects of renewable energy development on visual resources were evaluated by reviewing the PEIS for Solar Energy Development in Six Southwestern States, the Wind Energy Development PEIS, and the PEIS for Geothermal Leasing in the Western United States. In these documents, potential effects from actions similar to those that might occur under the Proposed LUPA alternatives were assessed.

Visual impacts can be divided into short-term impacts, generally associated with site characterization and active construction and decommissioning activities, and longer-term impacts that result from the visible physical changes wrought by construction, including site alterations, the physical presence of facilities, and facility operation. For purposes of analysis, short-term visual impacts are considered to occur and be present for no more than 5 years. These impacts are associated with visible construction activities and material/equipment staging and would cease once construction is completed. Long-term visual impacts extend beyond a 5-year period, when construction has been completed and operations are ongoing.

IV.20.2.1 Impacts of Renewable Energy and Transmission Development

Impacts can occur at various phases of a project: site characterization, construction and decommissioning, and operation and maintenance. Many types of impacts on visual resources are common among renewable energy projects, regardless of the technology employed. Visual changes due to utility-scale renewable energy and transmission development activities result from a range of actions or activities, including:

- Disturbance of ground surface

- Alteration or removal of vegetation and landforms
- Introduction of structures (e.g., energy collection and generation units, buildings, towers, and ancillary facilities)
- New or upgraded roads
- New or upgraded utilities and/or rights-of-way (e.g., widening of rights-of-way, addition of transmission lines, and upgrading of transmission capacity)
- Presence and movement of workers, vehicles, and equipment
- Visible emissions (e.g., dust and water vapor plumes)
- Reflectance, glare, and lighting

IV.20.2.1.1 Impacts of Site Characterization

During site characterization, ruts, windblown dust, and visible vegetation damage may occur from cross-country vehicle traffic if existing or new roads are not used. Soil disturbance can lead to growth of invasive species or erosion of soil, both of which could introduce contrasts in line, color, and texture, primarily for foreground and near-middle ground views. Site characterization visual impacts, such as occur with the presence of equipment and vehicles, are short-term. However, impacts due to road construction, erosion, landform alteration, or vegetation clearing may be visible for an extended period.

Site characterization activities can introduce visual impacts due to:

- Contrasts in form, line, color, and texture resulting from vegetation clearing and surface disturbance (if required for activities such as meteorological tower and access road construction and drilling of temperature gradient wells)
- Presence of trucks and other vehicles and equipment
- Presence of idle or dismantled equipment and litter, if allowed to remain on the site

IV.20.2.1.2 Impacts of Construction and Decommissioning

Visual impacts associated with construction activities vary in intensity, frequency, and duration during construction and, later, decommissioning. For a utility-scale project, these activities may last several years.

Construction and decommissioning activities can introduce contrast in form, line, color, and texture resulting from:

- Vegetation clearing and ground disturbance needed to prepare project sites and laydown/staging areas

- Road building and improvement
- Night lighting
- Debris
- Physical presence of project elements (solar energy collectors, wind turbines, geothermal generating plants, and support facilities)
- Presence and movement of vehicles, equipment, and workers
- Dust and other visible emissions

Solar project visual impacts vary based on the technology used, but they have a number of common features, including extensive grading to prepare areas for installing solar-collector or focusing arrays. This creates color and texture contrasts between existing soil and vegetation conditions and the disturbed, nonvegetated project footprint. Clearing also creates opportunities for visible windblown dust clouds to occur. Numerous vehicles are required to deliver and install the arrays, resulting in movement, dust, and the presence of the vehicles themselves. Often, temporary structures are installed or erected for component assembly and finishing, and to provide project site offices.

For wind energy projects, large cranes and other equipment would be needed to construct foundations and assemble and mount towers, nacelles (turbine housings), and rotors. This equipment would be especially visible near the activity and from a middle distance. Construction equipment would produce emissions and may create visible exhaust plumes. The disturbed footprint of individual turbines typically would be small, but for a field of turbines can be extensive. Collectively, multiple turbines would create a visual impact due to the size of their vertical and rotating elements and from required night safety lighting.

For geothermal projects, facilities to capture and use the geothermal resource would be constructed. Needed infrastructure can include roads, sump pits, production-size wells, injection wells, well field equipment, power plant facilities, pipelines, and transmission lines.

For all renewable energy projects, decommissioning the project and restoring the site to pre-project condition would entail removing structures and equipment, earthwork (re-contouring, grading, scarifying), and revegetation (stabilizing surfaces, seeding/planting, and providing temporary irrigation, if needed). Restoration might not be possible in all cases. The contours of restored areas might not be identical to pre-project conditions. Under the arid conditions generally found in the LUPA Decision Area, disturbed soils can create a visual contrast that persists for many years, until vegetation could begin to disguise past disturbance. Without proper management, invasive plant species may colonize reclaimed areas, producing contrasts in color and texture noticeable for many years. Unsuccessful

restoration of previously cleared areas could erode soil, collapse slopes, and create gullies, which could result in or continue long-term adverse visual impacts.

IV.20.2.1.3 Impacts of Operations and Maintenance

The operation and maintenance of renewable energy projects and associated electricity transmission lines, roads, and rights-of-way would have long-term adverse visual effects. Among these are land scarring, introduction of structural contrast and industrial elements into natural settings, view blockage, and skylining (silhouetting of elements against the sky). All renewable energy facilities would include enclosed and open workspaces, exterior lighting around buildings, access roads, fencing, and parking areas. Built structures (buildings, piping, fencing, collector arrays, etc.) would introduce industrial elements into the landscape and contrast with surrounding undisturbed areas in form, line, color, and texture. They also can block views and create skylining, depending on their dimensions and location relative to the viewer. The need for security and safety lighting could contribute to light pollution in areas where night lighting is otherwise absent or minimal. Light impacts include skyglow, off-site light trespass, and glare. Another impact common to renewable energy facilities is dust generated by vehicle movement within a site or along a right-of-way or access road. Without proper disturbed soil management strategies, wind can mobilize dust from project sites and create visible plumes or clouds of dust.

Solar

Some impacts are common to all utility-scale solar projects, regardless of the technology employed. Solar projects introduce strong geometric shapes and repeated linear elements into the visual environment. Typically, these projects have a large footprint and are in open and relatively flat settings with little to no vegetative or other screening. Valley floor locations are visible from nearby mountains and elevated viewpoints. Solar energy collectors rely on mirrored or glass surfaces that are highly reflective and produce glare (U.S. Department of Energy 2013). In addition to the collector or reflector arrays, solar projects can include other components with reflective surfaces, such as array support structures, steam turbine generators, piping, fencing, and transmission towers and conductors. Under certain viewing conditions, these surfaces give rise to specular reflections (glint and glare) visible to stationary or moving observers from long distances, and can constitute a major source of visual impact. Glint and glare from photovoltaic facilities are typically lower than solar concentrating facilities using trough, power tower, and solar dish technologies that employ mirrors and lenses. During the life of a solar project, panels, towers, troughs, and associated structures may need to be upgraded or replaced, creating visual impacts similar to impacts occurring during initial construction and assembly.

Solar energy projects also vary in their visual impacts because of the different technologies employed. Solar technologies include both concentrating solar power systems (which generate power using focused sunlight to either heat liquid to drive a turbine or generate electricity directly) and traditional photovoltaic systems. For example:

- Parabolic trough systems comprise rows of trough-shaped mirrors that direct solar insolation to a receiver tube running along the axis of the trough. Solar trough facilities have a relatively low profile when viewed from a distance, but a high potential for glare because they rely on reflected, focused light from large mirrors. Reflectivity varies widely during daylight hours based on sun angle, but can be highly visible from elevated viewpoints.
- Power tower systems consist of thousands of ground-mounted sun-tracking mirrors that direct sunlight to a receiver atop a tall tower, where a liquid is heated then piped to a ground-based steam generator. Power tower projects have greater visual impacts over larger areas than photovoltaic or thermal trough technologies because of their high vertical profile (i.e., one or more towers rising 300 to 700 feet above ground level with brightly glowing reflections at the receiver location), power plant, cooling towers, steam plumes, and highly visible and pulsing day/night aircraft safety beacons.
- Photovoltaic technologies differ from concentrated solar technologies; instead of concentrating sunlight to generate heat, they use panels to convert solar energy directly to electrical current (BLM 2013). Photovoltaic projects generally have lower visual impacts than the other solar technologies because of the comparatively low profile of the collector arrays and the lower reflectance from photovoltaic panels, as compared with mirrors used in other technologies. They do not have cooling towers, plumes, or power plants and do have fewer lights and low worker activity. Still, some panels can be reflective, especially when seen from higher elevations, and can be visible for long distances (up to 20 miles). Power conversion units (inverters) associated with these facilities can also cause visual contrasts (U.S. Department of Energy 2013). Because photovoltaic facilities do not require the generation infrastructure of other solar technologies (turbines, boilers), they are visually simpler and associated with lower visual contrasts (BLM 2013).
- Concentrated photovoltaic systems work like simple photovoltaic technologies, but they include lenses to focus the sun's rays on photovoltaic cells to generate more electricity than standard photovoltaic systems.

Wind

Wind energy projects would be highly visible because of the large vertical towers and rotating turbines that would be erected in an area where there are few, if any, comparable tall structures in the generally strongly horizontal landscapes typical of BLM lands in the LUPA Decision Area. Visibility and contrast would be heightened at locations where they these structures are sited along mesas or ridgelines, silhouetting them against the sky. Additionally, strong nighttime visual contrasts would occur from aviation warning lighting on the towers (BLM 2013). Wind turbines may create visually incongruous "industrial" associations for viewers, particularly in a predominantly natural landscape. Their moving blades attract visual attention. Depending on the time of day, the shadows of tall turbine towers extend great distances across the landscape, in a sundial effect. The direction and length of this effect varies with the relative position of the sun in various seasons and at different times of the day, with morning and evening producing the longest shadows. The regular periodic interruption of sunlight by rotating turbine blades may produce a strobe-like effect, flickering alternating light and shadow over the area where the shadow is cast. During the life of a wind project, towers, nacelles, and rotor blades may need to be upgraded or replaced, creating visual impacts similar to impacts occurring during initial construction and assembly. Collectively, multiple turbines would create a visual impact due to the numbers in close proximity to each other, their vertical and rotating elements, and the required night aviation safety lighting.

Geothermal

Visual impacts associated with the operation and maintenance of geothermal energy projects largely derive from ground disturbance and the visibility of industrial power plants, wells, pipes, steam plumes, and transmission lines.

Transmission

Visual impacts associated with the operation and maintenance of transmission facilities include the visual contrast of the transmission lines, support structures, and access roadways, as well as the occasional vehicle, equipment, and helicopter use along the transmission right-of-way or at substations, and the presence of workers conducting inspections or making repairs. Roads used for access are kept relatively free of vegetation. These features in the landscape can result in a strong visual contrast in form, line, color, and texture. Visibility and contrast would be heightened where towers and other structures are sited along mesas or ridgelines, resulting in skylining. Lattice towers are considered less visually obtrusive in natural landscape than monopoles when not close to sensitive viewing locations, because they are more transparent against background textures and colors (BLM 2013).

IV.20.2.2 Impacts of Ecological and Cultural Conservation and Recreation Designations

Because the Proposed LUPA land designations would be managed to protect ecological, historic, cultural, scenic, scientific, and recreation resources and values, they also would confer general protection for visual resources. While other land uses are allowed within these areas, the uses must be compatible with the resources and values that the land designation is intended to protect.

Designation of VRM Classes, as proposed under all of the action alternatives, would establish visual management objectives for all BLM land areas in the LUPA Decision Area. VRI and the VRM system provide a framework for managing visual resources on BLM-administered lands. Included in this system is a mechanism for identifying visual resource values, minimizing the impacts of surface-disturbing activities on visual resources, and maintaining the scenic value of land tracts for the future.

Land designations can protect visual resources by imposing restrictions on renewable energy development and limiting the amount of surface disturbance allowed. For example, development in national conservation lands and areas of critical environmental concern (ACECs) would have ground disturbance limits. BLM land designations would also benefit visual resources by buffering national trails with trail management corridors. Disturbance caps and corridor widths vary by alternative. Details on allowable uses and management within National Landscape Conservation System (NLCS) lands are in the Proposed LUPA description in Volume II. Details on the goals, objectives, allowable uses, and management actions for each ACEC and special recreation management area (SRMA) unit are presented in the LUPA worksheets in Appendix H.

Proposed Conservation and Management Actions (CMAs) would encourage projects to be located within the DFAs, thereby concentrating effects on visual resources in these areas. The required avoidance, minimization, compensation, conservation, and management actions would reduce the proliferation of impacts on visual resources to some extent by incentivizing development in specific areas and not in others, in contrast to permitting dispersed development throughout the LUPA Decision Area.

Visual resource protection levels are enhanced when desert areas are protected for other reasons also, such as for species and habitat protection. For example, the legislative and/or legal restrictions relevant to some existing conservation areas direct that they be managed for the benefit of plant and wildlife species. These protective actions afford visual resource protections to these areas as well by limiting or excluding development.

The proposed BLM LUPA conservation designations are administrative designations intended to reduce or expand NLCS lands, ACECs, and wildlife allocation designations on BLM-administered land. In addition to other resource values, relatively high levels of scenic quality and visual resources typically are associated with these areas.

The CMAs are critical components of the conservation strategy for the Proposed LUPA and serve to avoid, minimize impacts and/or mitigate losses of visual and other resources. CMAs would generally reduce the severity of impacts to visual resources by requiring impact avoidance and minimization measures for siting, design, construction, and decommissioning of renewable energy facilities.

BLM-specific CMAs for VRM include measures aimed at reducing the visual contrast of renewable energy activities, and incorporate by reference the measures identified in *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands* (BLM 2013). This publication identifies 122 best management practices (BMPs) that can be used to avoid or reduce potential visual impacts associated with the siting, design, construction, operation, and decommissioning of utility-scale renewable energy generation facilities, including wind, solar, and geothermal facilities. The BMPs were compiled from a variety of sources, including guidance documents developed by various federal and state agencies; existing environmental analyses, including programmatic and project-specific environmental impact statements and assessments; professional practice literature; consultations with landscape architects, engineers, and renewable energy professionals; and field observations of existing renewable energy facilities and facilities under construction.

In addition to technology-specific BMPs, more general BMPs for design, construction, operation, and decommissioning activities include the following:

- Visual impact analysis and mitigation planning
- Facility siting and design
- Structure design and materials selection
- Materials surface treatments
- Lighting design and operation
- Avoiding unnecessary disturbance
- Soil management and erosion control
- Vegetation management
- Interim and long-term reclamation
- “Good housekeeping” practices

Together with VRM objectives, CMAs and BMPs provide a comprehensive framework of guidelines and specifications under which visual impacts would be avoided where possible and minimized and/or mitigated to the extent practicable. They would avoid or reduce visual contrast in form, line, color, and texture using a range of techniques, such as sensitive siting, revegetation, recontouring to match existing terrain characteristics, or painting facility components to blend with the landscape.

CMAs for other resources could also benefit visual resources. These include CMAs applicable to:

- Air resources (e.g., stringent dust control requirements)
- Trails and travel (e.g., protecting views by buffering trails and managing travel routes and corridors)
- Cultural resources (e.g., prioritizing protection of visual resources on landscapes considered culturally significant to Native Americans)
- Biological resources (e.g., riparian and wetland avoidance and setbacks, restrictions on long-term nighttime lighting)
- Lands and realty (e.g., protection of visual resources and limiting disturbance in ACECs and other BLM land designations)
- Livestock grazing (protection and restoration of scenic riparian and wetland systems)
- Recreation (maintenance and/or enhancement of naturalness)
- Soil and water (protection of scenic qualities of water systems, riparian, and wetland habitat, and soil surfaces)

IV.20.3 Impact Analysis by Alternative

The following sections present the impact analysis for the No Action Alternative, the Preferred Alternative and Alternatives 1 through 4. Table IV.20-1 (in Chapter IV.1) summarizes the amount of visually sensitive resources within the LUPA Decision Area under each alternative. For reference, columns from this table are repeated in the discussion of each alternative to compare the Preferred Alternative with the No Action Alternative and then with Alternatives 1 through 4.

IV.20.3.1 No Action Alternative

The No Action Alternative assumes the state's renewable energy goals would be achieved without the Proposed LUPA and that mitigation for visual resource impacts from renewable energy and transmission projects in the LUPA Decision Area would occur on a

project-by-project basis in a pattern and manner similar to past and ongoing projects and under applicable laws and regulations.

Under the No Action Alternative, the BLM would not designate new VRM Classes for the California Desert Conservation Area (CDCA). Under the CDCA plan, BLM addresses visual resources through the multiple-use classes, and these designations would remain as they are currently. In accordance with BLM policy, all wilderness areas and wilderness study areas (WSAs) are managed as VRM Class I and would continue as VRM Class I under the No Action Alternative (Figure IV.20-1).

The No Action Alternative would continue the existing visual policies or designations in the LUPA Decision Area. No new or modified BLM land designations or VRM Classes would be implemented, except as they may be required of individual projects. In the absence of specific resource decisions, management of visual resources would occur on BLM-managed lands based on existing federal law, regulations, and BLM policy and guidance. Any areas currently excluded from development by statute, regulation, or proclamation would retain those exclusions.

IV.20.3.1.1 Impacts of Renewable Energy and Transmission Development – No Action Alternative

The No Action Alternative includes approximately 2,804,000 acres of Available Development Areas (see Table IV.1-1 and Table IV.20-1). Renewable energy and transmission development is not allowed, by policy, within very scenic or otherwise specially designated areas such as wilderness areas, WSAs, national wild and scenic rivers, and National Scenic and Historic Trail (NSHT) lands under the No Action Alternative. Visual impacts of future renewable energy and transmission development would be similar to those from current development patterns and technology mixes:

- Solar development would continue to be emphasized in the Cadiz Valley and Chocolate Mountains and the Imperial Borrego Valley ecoregion subareas; wind development in the West Mojave and Eastern Slopes ecoregion subarea; and geothermal in the Imperial Borrego Valley ecoregion subarea.
- One new transmission line is planned to extend from Imperial Substation to Sycamore Substation in San Diego. Solar PEIS Variance Lands would be available for development, as would other lands.
- Conservation would continue on existing protected lands including wilderness, WSAs, wild and scenic rivers, NSHTs, and other special areas identified through acts of Congress (Legislatively and Legally Protected Areas) and existing areas managed

by the BLM for the conservation of resource values (e.g., ACECs), but additional conservation areas would not be designated.

There are more than 2.8 million acres of Available Development Areas (ADAs) in the LUPA Decision Area under the No Action Alternative, resulting in a projected approximately 100,000 acres of long-term disturbance (see Table IV.1-1). Visual impacts associated with this scale of development would be dispersed across the LUPA Decision Area in accordance with allowances within existing BLM multiple-use classes.

Current development patterns emphasize solar in the Cadiz Valley and Chocolate Mountains and the Imperial Borrego Valley ecoregion subareas; wind in the West Mojave and Eastern Slopes ecoregion subarea; and geothermal in the Imperial Borrego Valley ecoregion subarea.

Impacts to visual resources in various areas under the No Action Alternative are as follows (see Appendix R2.20, Table R2.20-1 for additional detail):

- There are approximately 36,000 acres of VRI Class II lands, 41,000 acres of VRI Class III lands, and 35,000 acres of VRI Class IV lands within ADAs under the No Action Alternative. Protection of the scenic values identified for these lands would continue to be through the application of current CDCA multiple-use class guidelines or from existing VRM assignments under existing management plans.
- Approximately 3,000 acres of BLM-managed land in ADAs are VRM Class III under the No Action Alternative. These lands would continue to be managed according to their VRM classification. New VRM Classes would not be assigned under the No Action Alternative. VRM objectives would be applied only to existing classified lands, wilderness areas (VRM Class I), and WSAs (VRM Class I).
- Less than 1 mile of Bradshaw Trail National Back Country Byway is within an ADA.
- Approximately 20 miles of NSHTs are within ADAs, potentially affecting the visitor experience of people using those trails. Under the No Action Alternative, no trail management corridors would be established along these trails, although buffering of trails could be imposed on a case-by-case basis during project review and approval.
- ADAs do not include any designated or eligible wild and scenic river corridors under the No Action Alternative.

Table IV.20-1
Potentially Affected Visual Resources and Visually Important Management Units by Alternative

		No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Renewable Energy & Transmission Development Areas (acres)							
Available Development Area		2,804,000	—	—	—	—	—
DFAs		—	388,000	81,000	718,000	211,000	258,000
Visual Resource Elements Within Potential Renewable Energy Project Impact Areas ‡ (acres unless otherwise indicated)							
Visual Resource Inventory Classes	Class I	0	0	0	0	0	0
	Class II	36,000	19,000	4,000	59,000	5,000	18,000
	Class III	41,000	53,000	9,000	152,000	20,000	56,000
	Class IV	35,000	28,000	8,000	95,000	25,000	11,000
Visual Resource Management Classes	Class I	0	0	0	0	0	0
	Class II	10	2,000	10	13,000	0	11,000
	Class III	3,000	5,000	300	102,000	6,000	64,000
	Class IV	0	93,000	20,000	190,000	44,000	9,000
National Scenic Byways		1 mi	0	0	0	0	0
National Trails		20 mi	1 mi	2 mi	6 mi	2 mi	1 mi
Wild and Scenic Rivers		0	0	0	0	0	0
BLM Land Designations[1] (acres)							
Existing Legally and Legislatively Protected Areas		3,920,000	3,920,000	3,920,000	3,920,000	3,920,000	3,920,000
BLM existing and proposed conservation designations		2,407,000	4,966,000	4,863,000	5,191,000	5,023,000	4,431,000

‡ Including wind development project area and excluding transmission impacts in DRECP area only. An additional 79,000 to 428,000 acres would be designated in the CDCA outside the DRECP area.

[1] BLM conservation designations include: NLCS, ACECs, and wildlife allocations

Note: VRI Class I represents the highest level of inventoried visual resource values; VRM Class I represents the most restrictive visual management objectives.
The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

Under the No Action Alternative, there would be a high potential for visual impacts to occur where land available for facility development abuts or is visible from Legislatively and Legally Protected Areas. These include Mojave National Preserve, Death Valley National Park, Joshua Tree National Park, numerous Congressionally designated wilderness, and the west side of the Imperial Sand Dunes Recreation Area.

The impacts to visual resources resulting from the No Action Alternative are as follows.

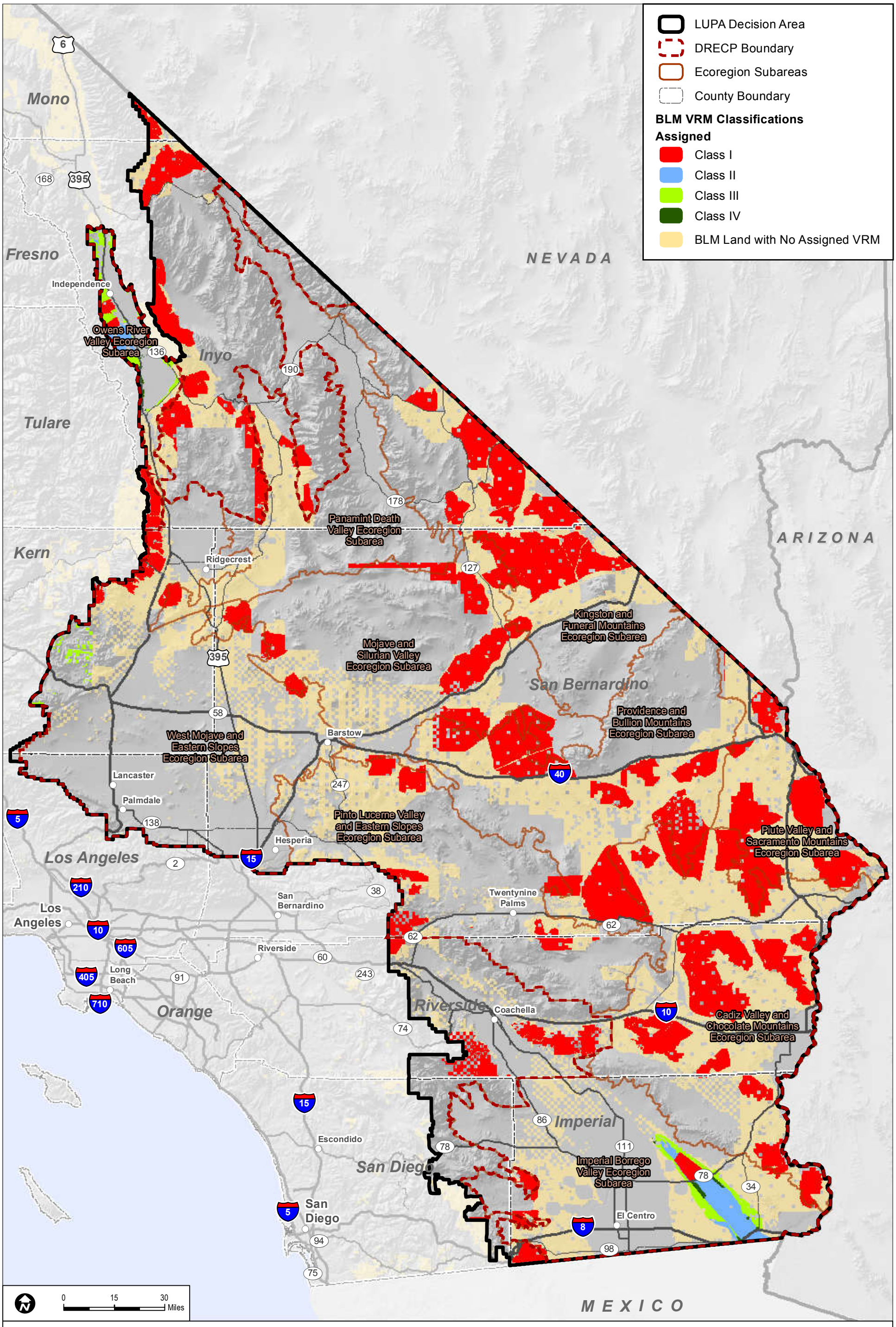
Impact VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.

Pre-construction activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include road upgrading, damage to or removal of native vegetation, construction of meteorological towers, drilling of temperature gradient wells, vehicles, and lighting.

During construction and decommissioning, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include dust and exhaust emissions, removal of vegetation during site clearing, contouring and grading, use of vehicles and equipment, mobilization and demobilization activities, material delivery and staging, assembly of components, site lighting, and construction of and later removal of structures.

Impact VR-2: The presence of renewable energy facility components would create long-term visual contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

The continued presence of equipment, structures, fencing, roads, lighting, and other elements required to operate a facility would have a long-term adverse effect on the visible landscape. Areas of persistent surface and vegetation disturbance and the presence of structures would create visual contrast in form, line, color, and texture as compared with pre-project conditions. Depending on viewer location, physical elements introduced by a project could block views or create skylining. Even after project removal and site reclamation are completed, visual contrast would remain. Restoring the natural, pre-disturbance visual character of a desert environment is extremely difficult, can take decades, and often is unsuccessful. Therefore, surface and vegetation disturbance would create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes.



Sources: ESRI (2014); BLM (2015) RECON (2015)

FIGURE IV.20-1

BLM Visual Resource Management Classifications, No Action Alternative

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Renewable energy projects, particularly utility-scale solar facilities, would create new sources of light and/or glare that would affect daytime and nighttime views and result in long-term impairment of scenic quality. Depending on the technology, solar facilities use a multitude of mirrored surfaces that can be sources of glint (a brief flash of light) or glare (light bright enough to cause annoyance or discomfort; BLM 2013). Solar facilities are capable of causing off-site glare that may cause annoyance, discomfort, or in certain circumstances, ocular damage. In some instances, the glare can be bright enough to cause a viewer to close their eyes in reaction (Sullivan, et al. 2012).

Glint and glare are safety concerns, particularly with regard to vehicle operators and pilots for whom even momentary blindness is a human safety threat. Recently, the Federal Aviation Administration received complaints in which glare was identified as a flight hazard because it allegedly impaired the ability of the pilot to fully scan the sky for other aircraft (The Press-Enterprise 2014). Two pilot complaints of adverse visual impacts from the Ivanpah Solar Electric Generating System were received by the California Energy Commission from the Clark County Department of Aviation (Spectrus 2014).

Glare from solar receivers also adversely affects the views and visitor experience of recreationists and can be seen from wilderness areas at distances less than 5 miles (California Energy Commission 2013).

Glint and glare from wind and geothermal facilities is a concern as well. Glare and glinting from white wind turbine blades increases their contrast with the surrounding natural landscape. If geothermal facilities and pipe networks are not painted or coated appropriately to reduce reflectance and blend with the landscape, their surfaces may be highly visible.

Development or enhancement of transmission and substation facilities in the LUPA Decision Area would occur in a variety of remote, rural, suburban, and urban settings. In general, the visual character of a landscape is defined by the amount and type of development found within the setting, natural variations in topography, and the density and height of vegetation. Color, hue, and contrast are important variables to be considered in any analysis. The geographic area from which a transmission line or substation would be visible is referred to as the facility's viewshed; this is primarily determined by the surrounding land elevation relative to the facility location and the landforms, structures, or vegetation that would block views that otherwise would exist. A facility's effective viewshed is limited by distance; with increased distance between a facility and a viewer, atmospheric moisture and particles affect the visibility and distinctness of the facility. The perceived color, contrast, and size of a facility relative to its surroundings diminish; and the facility becomes indistinct and blends into the background.

Transmission lines and substations differ in their visible elements, how they are situated in the landscape, and the duration of views. Transmission lines are linear facilities that introduce rhythmic, repeating elements across a landscape. These ribbon-like facilities extend many miles. They consist of stand-alone tower structures ranging from 100 to 160 feet high. Although it varies by terrain, spacing can be uniform, typically 4 to 5 per mile for 500-kilovolt lines and 7 to 10 per mile for 230-kilovolt lines. Depending on tower types, they may require a permanently cleared area beneath them. They also may require new access roads to and along their rights-of-way, and stub roads extended from those roads to tower sites if they do not already exist.

In contrast to transmission lines, substations are confined, single-site facilities. Such facilities receiving renewable power are expected to be sited at or near existing 500/230-kilovolt substations. Large substations can include pads that extend over 100-200 acres, with additional space for access roads, water tanks, and buffers. Circuit breakers, disconnect switches, transformers, capacitors, and associated equipment, as well as control or equipment buildings and firewalls, are typical ground-level elements of a substation. Dead-end structures used to loop lines in and out of the substation, busses, and overhead structures above the equipment and facilities are also situated on the substation pad. Typically, these are lattice- or tubular-steel components with cross members.

It is feasible to characterize existing visual conditions in identified transmission corridors, but project-level analyses would be required to determine specific future projects' impacts on visual resources. Analyses of visual impacts on BLM-managed lands is conducted using BLM's VRM system (described in detail in Volume III, Section III.20.1.1.2).

The structure, size, and industrial character of utility-scale renewable energy and transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

Design Features of the Solar PEIS

Numerous design features have been adopted by BLM that would avoid, minimize, and/or mitigate potential impacts on visual resources from solar energy development (see Appendix W). It is assumed that these or similar design features would apply to all renewable energy and transmission projects developed within the LUPA Decision Area. These design features include these actions listed as VR-1 through VR-4 in the Solar PEIS to reduce visual impacts (BLM and Department of Energy 2010):

- **VR1-1:** Requires assessing conformance to VRM Class designations and identifying visual resource conflicts. Among the actions to be taken are consulting with BLM;

factoring VRI Class values into project planning and design; including a qualified professional with VRM experience on the development team; consulting the local public to identify important visual resources in the area; consulting on viewshed protection with managers responsible for areas with special designations; evaluating impacts on historic trails; considering landscape setting observed from national parks, national historic sites, and similar areas; using topographical data of engineering-design quality and digital terrain mapping for project planning and design; preparing simulations depicting project facilities as seen from key observation points and visual resource–sensitive locations; conducting public outreach to disseminate visual resource information; and performing visual mitigation planning and design based on field assessments and other means.

- **VR2-1:** Requires consideration of siting and design to minimize glint and glare and taking appropriate actions. These actions include identifying glint and glare effects, assessing and quantifying these effects to determine potential safety and visual impacts, and having qualified people conduct such assessments. Methods to minimize glint and glare include limiting use of signs; using reflective or luminescent markers instead of permanent lighting; minimizing off-site visibility of signs and lighting; using nonglare materials and appropriate colors; mitigating or offsetting visual impact by reclaiming unnecessary roads, removing abandoned buildings, using undergrounding utility lines, and rehabilitating and revegetating disturbed areas; and other actions determined in consultation with the BLM.
- **VR2-2:** Requires solar facilities be sited and designed to minimize night-sky effects. Identification of night-sky effects is to include assessing and quantifying potential lighting impacts and conducting assessments by using qualified individuals. Methods to minimize night-sky effects include using minimum intensity lighting of an appropriate color consistent with safety needs, prohibiting strobe lighting except where it is required for safety; shielding all permanent lighting unless otherwise required for safety; mounting lighting so that light is downward focused; controlling lighting with timers, sensors, and dimmers; and using vehicle-mounted lights for nighttime maintenance work rather than permanently mounted lighting.
- **VR2-3:** Requires that the siting and design of solar and related facilities explore and document means to reduce visual dominance in the viewshed and that the project comply with VRM Class objectives. Methods include conforming with VRM Class objectives (through use of BLM Handbook H-8431-1); determining the extent of the viewshed and selecting key observation points where people are expected to be observing the landscape; integrating visual design elements into plans, details, drawings, and specifications; and siting the facility to minimize the profile of all structures. Ways to minimize visual dominance include using existing topography and vegetation as screening; considering visual design elements when clearing

vegetation and doing earthwork; siting projects outside key observation point viewsheds; avoiding locating facilities near visually prominent landscape features; avoiding skylining of structures; designing linear features to follow natural land contours rather than straight lines; locating linear features at the edges of natural lines of transition between vegetation types and topography; using alternative means of access in visually sensitive areas to preserve landscape conditions; minimizing vegetation and ground disturbance; reducing cut and fill; shaping, staining, and vegetating excavations to conform with local conditions; creating natural-looking earthwork forms; repeating characteristics of naturally occurring openings in vegetation for roads, structures, and similar elements; burying linear utilities and lines along roads or paths; selecting appropriate materials and surface treatments for structures to reduce visual contrast; using nonspecular conductors and nonreflective coatings on transmission lines; minimizing signage; delineating construction limits and minimizing area of surface disturbance; salvaging vegetation and topsoil for reuse; and removing stakes and flagging after construction.

- **VR2-4:** Requires preconstruction meetings with the BLM and designated specialists to coordinate the VRM mitigation strategy. This includes a review of final design and construction documents with regard to visual impacts and mitigation.
- **VR3-1:** Requires the project developer to monitor compliance with VRM mitigation requirements and consult with the BLM during operations and maintenance. Maintaining visual resource design elements would include maintaining revegetated surfaces until self-sustaining; keeping facilities in good repair and repainting as necessary; restoring lands as soon as possible after disturbance; controlling dust and noxious weeds; and operating so as to avoid high-intensity light (glare) being reflected off site.
- **VR4-1:** Requires immediate reclamation of the site after construction. Methods for minimizing visual contrast during reclamation and decommission include undertaking treatments such as thinning and feathering vegetation at project edges, enhancing contouring, salvaging landscape materials, and revegetating; restoring the project area to predevelopment visual conditions and the inventoried visual quality rating; removing aboveground and near-ground-level structures; contouring soil borrow areas and other features to approximate natural slopes; using native vegetation to establish form, line, color, and texture consistent with the surrounding undisturbed landscape; distributing stockpiled topsoil to disturbed areas and replanting; and removing or burying gravel or other surface treatments.

Typical Mitigation

Many visual impact mitigation measures applicable to existing renewable energy projects would be adopted and applied to future projects under the No Action Alternative (see Appendix W and the previous discussion under Laws and Regulations). Examples of general visual impact mitigation measures applicable to any project implemented in the absence of LUPA approval include:

- Modifying facility designs, colors, locations, and materials to reduce visibility and contrast.
- Adjusting site configurations and harmonizing earthwork with local topographic forms and contours.
- Treating structure surfaces to reduce contrast and glare.
- Minimizing lighting overall, using fixtures that minimize night-sky impacts and down-focus fixtures.
- Avoiding unnecessary ground disturbance beyond what is required for the project.
- Controlling dust and erosion.
- Restoring and managing disturbed land and vegetation.
- Restoring and reclaiming areas as soon as feasible.

Examples of visual mitigation measures applicable to solar projects include development and implementation of a glint and glare mitigation and monitoring plan; screening of solar collectors from roads; retaining vegetation beneath solar collector arrays; prohibiting commercial signs, logos, or messages on towers and arrays; and using visually compatible color treatments and non-reflective materials for support structures, panel backs, and other components. In addition to direct reduction in visual quality, visual quality degradation can compromise the integrity of historical resources or traditional cultural places. In cases where such visual impacts occur, compensatory mitigation can include requiring research, field inventories, worker training, and other efforts specific to the resource and groups affected.

Examples of visual mitigation measures for wind energy projects include siting to reduce visibility, clustering turbines, creating visual order and unity among groups of turbines, using radar-activated visual warning systems to reduce night-sky impacts, prohibiting signs and messages on towers, keeping turbines clean and in good repair, and promptly removing disused or abandoned equipment and parts.

Examples of visual mitigation measures specific to geothermal energy projects include using air-cooled systems (to avoid plumes that water-cooled systems may generate under some conditions), minimizing drill rig and well-test facility lighting, and screening of pipelines.

IV.20.3.1.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – No Action Alternative

The No Action Alternative would continue the existing visual management policies set forth in the CDCA Plan, Bishop Resource Management Plan (RMP), Bakersfield RMP, and Imperial Sand Dunes Recreation Area Management Plan (RAMP). The Bishop and Bakersfield RMPs and the Imperial Sand Dunes RAMP each have assigned VRM Classes, which would continue to set objectives for visual resource management in those plan areas.

Under the No Action Alternative, existing BLM land use plans within the LUPA Decision Area would continue to apply and renewable energy development would be allowed in certain land designations, including Solar Energy Zones and Solar PEIS Variance Lands. In addition, as has been the case for previous individual solar, wind, and transmission projects on BLM-managed land, new projects would be approved along with project-specific LUPAs, if required. In all cases, BLM's policies and guidance for visual impact assessment and impact reduction would apply.

Existing BLM plans identify various land designations and associated management actions for existing protected areas, such as ACECs, SRMAs, and NSHTs. Protective measures in these designations offer some level of protection for visual resources under the No Action Alternative.

Under the No Action Alternative, solar energy development on BLM-managed land would be subject to the Solar PEIS. The Solar PEIS created a comprehensive set of updated and revised policies and procedures, including standards for visual resource management, and established categories of lands excluded from utility-scale solar development. Both actions could help protect visual resources within the LUPA Decision Area.

The Wind PEIS Record of Decision (December 2005) established policies, BMPs, and minimum mitigation requirements for wind development on BLM land. However, the Wind PEIS did not amend BLM plans in the LUPA Decision Area. Therefore, under the No Action Alternative, wind energy development within the LUPA Decision Area would be under the existing CDCA Plan; and wind energy right-of-way applications would continue to be considered on a case-by-case basis.

The following summarizes the key aspects of visual impacts on BLM-managed lands under existing BLM Land Use Plans in the No Action Alternative. These include visual resources within BLM land designations. Table R2.20-2 in Appendix R2 includes detailed information.

The following are within existing SRMAs and/or ACECs:

- Over 3.5 million acres of VRI classified lands
- Over 1 million acres of VRM classified lands
- 30 miles of the Bradshaw Trail National Back Country Byway
- 157 miles of national trails
- 22 miles of wild and scenic rivers (Amargosa River)

Currently, VRM Classes are assigned for the Bishop and Bakersfield field offices and for the Imperial Sand Dunes RAMP. As well, under BLM policy, VRM Class I is assigned to wilderness areas and WSAs. This would not change under the No Action Alternative. Generally, a low correlation between the VRM Classes and the underlying VRI Classes results in a greater potential for adverse impacts to visual quality (e.g., VRI Class II or III lands managed to meet the objectives of VRM Class IV). Conversely, impacts would most likely be reduced by alternatives proposing visual resource management that either closely corresponds to the VRI classes or proposes a more restrictive (higher) class designation (e.g., VRI Class III lands managed to meet the objectives of VRM Class II.)

Under the No Action Alternative, VRI Class lands within the VRM Classes on BLM LUPA lands would be as shown in Table IV.20-2.

The following summarizes the key points from this comparison of VRI Classes and existing VRM Classes under the No Action Alternative:

- By BLM policy, all VRI Class I lands are assigned VRM Class I for management purposes. This is due to wilderness areas and WSAs being designated VRM Class I. The breakdown by VRI Classification is as follows:
- VRI I: 100% of VRI Class I lands, including wilderness areas and WSAs, would continue to be managed as VRM Class I, reflecting a high level of management protection.
- VRI II: 75% of VRI Class II lands would continue to be managed as VRM Class II, reflecting a moderately high level of management protection. Approximately 20% would continue to be managed as VRM Class III and 5% as VRM Class IV.
- VRI III: More than 84% of VRI Class III lands would continue to be managed as VRM Class III or as II, reflecting a moderate to high level of management protection. Approximately 35% would continue to be managed to meet VRM Class II objectives, which restrict visual contrast and affect more than VRM Class III does. Approximately 16% would be managed as VRM Class IV, which allows for more visual contrast and impact than VRM Class III objectives allow.

- VRI Class IV: More than 58% of VRI Class IV lands would continue to be managed as VRM Class II or III; 41% would continue to be managed as VRM Class IV.

IV.20.3.1.3 Impacts of Transmission Outside the DRECP Area

Under the No Action Alternative, additional transmission lines would be needed to deliver the additional renewable energy to load centers (areas of high demand) outside the DRECP area. It is assumed that transmission outside the DRECP area would use existing transmission corridors that run between the DRECP area and existing substations in the more populated coastal areas of the state. Existing substations would serve as the portals for the power to be transmitted from the desert to load centers. These portals include Whirlwind, Vincent, Lugo, Devers, Suncrest, and Imperial substations. These are the same under the No Action Alternative, the Preferred Alternative, and Alternatives 1 through 4. Likewise, the transmission corridors outside the DRECP area are the same for all alternatives. Therefore, at a programmatic level, there is no difference among the alternatives based on transmission outside the DRECP area. The actual corridors used and the number and type of transmission lines installed would depend upon the ultimate location of generation facilities in the DRECP area. Any transmission projects proposed outside the DRECP area would need a project-specific environmental review.

Existing corridors contain transmission towers, conductors, and access roads; therefore, some degree of visual impact is already present. The type and degree of visual impacts in these corridors would vary based on whether the area through which the corridor passes is undeveloped or urbanized.

There are relatively open landscapes between the substations acting as portals from the DRECP area to the urbanized areas where the electrical demand exists. This open landscape is in a mix of public and private ownership. In Southern California, the transition from open landscapes to urban landscapes can be abrupt. Areas subject to BLM or U.S. Forest Service jurisdiction would require project-by-project analysis under their respective visual management protocols. Areas subject to state or local jurisdiction would be subject to project-by-project analysis by the California Public Utilities Commission, which has authority over high-voltage transmission lines.

Impacts to visual resources from construction of transmission lines outside the DRECP area would be as follows:

Table IV.20-2
VRI Classes within Existing VRM Classes in LUPA Decision Area – No Action Alternative

LUPA-VRM Class Designations	Existing Visual Resource Inventory Classes								Total
	VRI Class I		*VRI Class II*		*VRI Class III*		*VRI Class IV*		
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	
VRM Class I	3,866,000	100%	0	0%	0	0%	0	0%	**3,866,000**
VRM Class II	0	0%	100,000	75%	25,000	35%	3,000	22%	**128,000**
VRM Class III	0	0%	65,000	20%	15,000	49%	65,000	36%	**145,000**
VRM Class IV	0	0%	18,000	5%	1,000	16%	3,000	41%	**22,000**
Total	**3,866,000**	**100%**	**183,000**	**100%**	**41,000**	**100%**	**71,000**	**100%**	**4,161,000**

Note: VRI Class I represents the highest level of inventoried visual resource values; VRM Class I represents the most restrictive visual management objectives. Under the No Action Alternative, VRM Classes are assigned only for the Bishop and Bakersfield field offices and the Imperial Sand Dunes RAMP. By BLM policy, VRM Class I is assigned to wilderness and WSAs. The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

Impact VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.

Pre-construction activities and equipment would be visible to observers in the vicinity of the work would result in short-term diminished scenic quality for viewers. Examples include access road upgrading, damage to or removal of native vegetation, and presence and movement of vehicles, dust, and lighting. This would be true for both open landscapes and urbanized areas.

Impact VR-2: The presence of plan components would create long-term visual contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

Transmission towers and conductors would have an adverse effect on the visible landscape. Areas of persistent surface and vegetation disturbance, such as access roads and tower footprints, and the presence of structures would create visual contrast with existing conditions. Depending on viewer location, physical elements introduced by a project could create skylining. These effects would be similar to those of existing lines. Surface and vegetation disturbance would create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes. The presence of towers, roads, and other elements required to operate a transmission facility would have a long-term effect on visual resources. Notably, transmission lines create long linear features in the landscape visible from a considerable distance in flat terrain.

In open landscapes through which portions of these corridors pass, such as desert lands, visual contrasts would remain even after decommissioning and removal of facilities. Restoring the natural, pre-disturbance visual character of an arid or semi-arid environment is difficult, can take decades, and is not always successful. Surface and vegetation disturbance would create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes.

In urbanized areas, the lines would be in existing transmission corridors mostly surrounded by urban development. The presence of buildings and vegetation would tend to block long sightlines to the transmission structures, limiting the area from which they could be seen. If new towers are located near existing towers, this would increase the number of industrial-like elements visible within the urban setting. However, this would be an incremental increase over existing conditions and not a radical departure. In some cases, existing transmission lines would be replaced with upgraded towers and conductors. This would exchange one set of visual impacts for another similar set, potentially reducing the number of towers visible, but possibly introducing taller towers into the view.

Visual impacts from the construction and operation of transmission lines outside the DRECP area would be reduced by application of various mitigation measures. Generally, applicable measures to lessen impacts include controlling dust, aligning tower locations so they are adjacent, locating towers so they do not skyline on ridges, and using nonreflective (nonspecular) surface treatments.

IV.20.3.2 Preferred Alternative

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission on BLM-managed land under the LUPA and the impacts of the amended land use plans themselves.

IV.20.3.2.1 Impacts of Renewable Energy and Transmission Development – Preferred Alternative

Proposed VRM Classifications under the Preferred Alternative are shown in Figure IV.20-2. The Preferred Alternative includes approximately 388,000 acres of DFAs, and approximately 5 million acres of existing and proposed BLM conservation designations (see Table IV.1-1 and Table IV.20-1). Effects of the Preferred Alternative on baseline conditions, including transmission development and BLM land use decisions, are described below.

In the Proposed LUPA, renewable energy-related activities would be incentivized in DFAs, and allowed in Variance Process Lands and unallocated lands. Solar, wind, and geothermal development and operation in the LUPA Decision Area would result in a projected 81,000 acres of potential disturbance (see Table IV.1-1.) Solar energy would likely be the largest renewable energy technology type in most counties, but wind would also be prominent in Riverside and San Bernardino counties. Geothermal development would likely occur only in Imperial and Inyo counties. Transmission development and operation would be permitted both inside and outside DFAs.

The distribution of DFAs under the Preferred Alternative would be far less widespread than the broad distribution of ADAs under the No Action Alternative. The visual impacts resulting from the Preferred Alternative are summarized below (see Appendix R2.20, Table R2.20-3 for additional detail).

Impact VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.

Preconstruction activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples

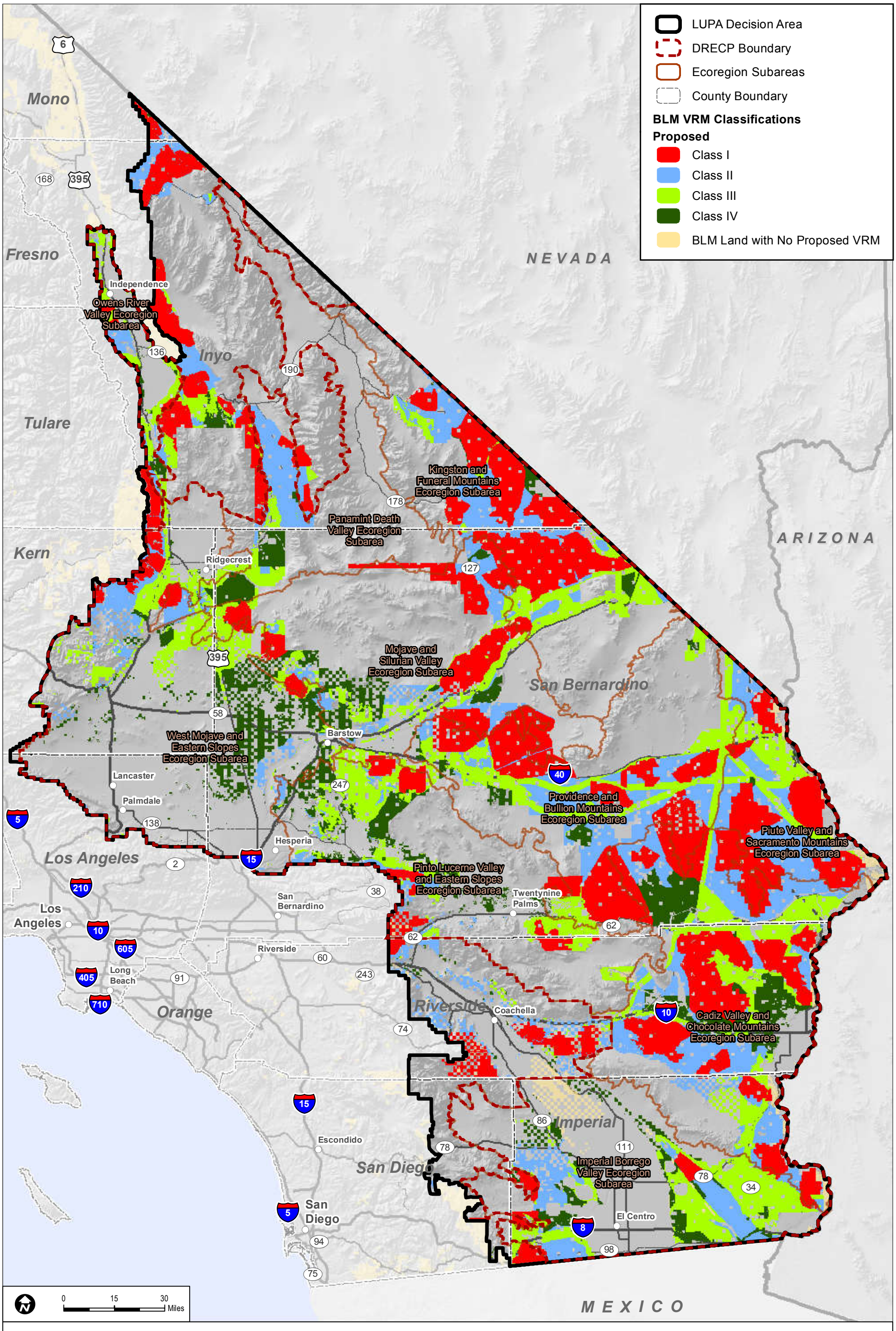
include road upgrading, damage to or removal of native vegetation, construction of meteorological towers, drilling of temperature gradient wells, vehicles, and lighting.

During construction and decommissioning, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include dust and exhaust emissions, removal of vegetation during site clearing, contouring and grading, presence of vehicles and equipment, mobilization and demobilization activities, material delivery and staging, assembly of components, site lighting, and construction of and later removal of structures.

Impact VR-2: The presence of project components and disturbance would result in long-term diminished scenic quality.

The continued presence of equipment, structures, fencing, roads, and other elements required to operate a facility would have a long-term adverse effect on the visible landscape. Areas of persistent surface and vegetation disturbance and the presence of structures would create visual contrast in form, line, color, and texture compared to pre-project conditions. Depending on viewer location, physical elements introduced by a project could block views or create skylining. Even after project removal and site reclamation are completed, visual contrast would remain. Restoring the natural, pre-disturbance visual character of a desert environment is extremely difficult, can take decades, and often is unsuccessful. Therefore, surface and vegetation disturbance would create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes.

The structure, size, and industrial character of utility-scale renewable energy and transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.



Sources: ESRI (2014)); BLM (2015); RECON (2015)

FIGURE IV.20-2

Proposed BLM Visual Resource Management Classifications, Preferred Alternative

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Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a BLM LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance process before the BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Development within Variance Process Lands may impact visual resources. There are approximately 40,000 acres of Variance Process Lands under this alternative. Under the Preferred Alternative, the majority of impacts would likely be to VRI Class III lands. No Variance Process Lands would be on VRI or VRM Class I lands, trail management corridor lands; or along national scenic byways, national trails, or wild and scenic rivers. Visual resource elements within Variance Process Lands are shown in Table IV.20-3.

Table IV.20-3
Visual Resource Elements Within Variance Process Lands – Preferred Alternative

Visual Resource Elements		Variance Process Lands (acres unless otherwise indicated)
Visual Resource Inventory Classes	Class I	—
	Class II	9,000
	Class III	30,000
	Class IV	400
Visual Resource Management Classes	Class I	—
	Class II	23,000
	Class III	5,000
	Class IV	11,000
National Scenic Byways		—
National Trails		—
Wild and Scenic Rivers		—
Trail Management Corridors		—

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

Conservation and Management Actions

The conservation strategy for the Preferred Alternative (presented in Volume II, Section II.3.4) defines specific actions that would reduce the impacts of this alternative. The conservation strategy includes the following specific visual resource CMAs that apply to the Preferred Alternative and all action alternatives:

Visual Resource CMAs (LUPA-wide)

LUPA-VRM-1: Manage Visual Resources in accordance with the VRM classes as shown on Figure II.3-5.

LUPA-VRM-2: Ensure that activities within each of the VRM Class polygons meet the VRM objectives described above as measured through a visual contrast rating process.

LUPA-VRM-3: Ensure that transmission facilities are designed and located to meet the VRM Class objectives for the area in which they are located. Transmission lines routed through approved corridors where they do not meet VRM Class Objectives will require RMP amendments to establish a conforming VRM Objective. All reasonable effort must be made to reduce visual contrast of these facilities in order to meet the VRM Class before pursing RMP amendments. This includes changes in routing, using lattice towers (vs. monopole), color treating facilities using an approved color from the BLM Environmental Color Chart CC-001 (dated June, 2008 or June, 2013; vs. galvanized) on towers and support facilities, and employing other BMPs to reduce contrast. Such efforts will be retained even if an RMP amendment is determined to be needed. Visual Resource BMPs that reduce adverse visual contrast will be applied in VRM Class conforming situations. For a reference of BMPs for reducing visual impacts see the *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands,* available at this website: http://www.blm.gov/style/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy/renewable_references.Par.1568.File.dat/RenewableEnergyVisualImpacts_BMPs.pdf

Visual Resource CMAs for DFAs and Variance Process Lands

DFA-VRM-1: Manage all DFAs as VRM Class IV to allow for industrial scale development. Employ best management practices to reduce visual contrast of facilities.

DFA-VRM-2: Require development to incorporate visual design standards and include latest BMPs (from Solar, Wind, West Wide Energy Corridor, and Geothermal PEISs, the Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands and other programmatic BMP documents).

DFA-VRM-3: Encourage development in a planned fashion within DFAs (e.g., similar to the planned unit development concept used for urban design, such as in-fill vs. scattered development, use of common road networks, generator tie lines, use of similar support facility designs, materials, and colors) to avoid industrial sprawl.

DFA-VPL-VRM-1: Required Visual Resource BMPs. All development within and outside the DFAs will abide by the BMPs addressed in the *Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands,* including, but not limited to the following:

- Transmission—Color-treat monopoles Shadow Gray per the BLM Environmental Color Chart CC001 unless a more effective color choice is selected by the local field office VRM specialist.
    - Lattice towers and conductors will have nonspecular qualities.
    - Lattice Towers will be located a minimum of ¾ mile away from Key Observation Points such as roads, scenic overlooks, trails, campgrounds, navigable rivers and other areas people tend to congregate and located against a landscape backdrop when topography allows.
- Solar—Color treat all facilities Shadow Gray from the BLM Environmental Color Chart CC001 unless a more effective color is selected by the field office VRM specialist, including but not limited to:
    - concentrated solar thermal parabolic trough panel backs,
    - solar power tower heliostats,
    - solar power towers,
    - cooling towers, and
    - power blocks.
- Wind—Color treat all facilities Shadow Gray with the exception of the wind turbine and towers 200 vertical feet or more.
- Night Sky—BMPs to minimize impacts to night sky including light shielding will be employed.

VPL-VRM-1: Manage all Variance Process Lands as VRM Class III.

VPL-VRM-2: Require regional mitigation for visual impacts in Variance Process Lands and unallocated lands. Mitigation will be based on the VRI class and the underlying visual values (scenic quality, sensitivity, and distance zone) for the development area as it stands at the time the Record of Decision is signed for the DRECP. Compensation may involve reclamation of visual impacts that are present within other areas designated as BLM VRM Class I or II

lands (so that they are no longer visible in the long-term), mitigation on BLM lands inventoried as having equal to or greater visual resource values, or amending RMP for lands within VRM Class III or IV to a higher level of protection (VRM Class I or II) for areas that are visually intact with no cultural modifications and have visual resource inventoried values that are equal to or greater in value and place a protective visual ACEC delineated around the compensatory mitigated area. The following mitigation ratios will be applied:

- VRI Class II 2:1 ratio
- VRI Class III 1:1 ratio
- VRI Class IV no mitigation required
- Require compensatory mitigation on public lands developed within DFAs at one-half the level of lands outside DFAs:
    - VRI Class II 1:1 ration
    - VRI Class III 1/2:1 ratio
    - VRI Class IV, no mitigation required

Require additional mitigation requirements where projects affect viewsheds of specially designated areas (e.g., NSHTs, national parks) as discussed under those programs.

Visual Resource CMAs for National Scenic and Historic Trails

NLSC-NSHT-13 Visual Resources Management: All NSHT Management Corridors will be designated as VRM Class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state-of-the-art VRM BMPs for renewable energy will be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.

Visual Resource CMAs for ACECs and SRMAs

ACEC-VRM-1: Manage Alabama Hills SRMA and Manzanar ACEC to conform to VRM Class II standards.

Visual Resource CMA for Lands Managed for wilderness Characteristics

LUPA-WC-4: Manage the areas identified in Figure II.3-6 to protect wilderness characteristics, subject to the following CMA:

- Manage the areas as VRM II.

Visual Resource CMA for Cultural Resources

LUPA-CUL-7: Coordinate with visual resources staff to ensure VRM Classes consider cultural resources and tribal consultation to include landmarks of cultural significance to Native Americans (traditional cultural properties, trails, etc.)

Visual Resource CMA for Unallocated Lands

Same as DFA-VPL-VRM-1 in Section II.3.4.2.8.8.

These visual resource CMAs provide a comprehensive framework of state-of-the-art guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

IV.20.3.2.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Preferred Alternative

Approximately 4,966,000 million acres of the LUPA Decision Area under the Preferred Alternative would be composed of BLM conservation designations, including NLCS lands, ACECs, and wildlife allocations. This would result in the protection of visual resources because of the limitations on development incorporated in existing laws and regulations and in the CMAs associated with the BLM land designations.

The Preferred Alternative would establish VRM classes for all lands in the CDCA. (Currently, only the Bishop and Bakersfield RMPs and the Imperial Sand Dunes RAMP have VRM Classes designated, and in accordance with BLM policy, all wilderness and WSAs are managed as VRM Class I.) The Preferred Alternative would also (1) designate new NLCS lands; (2) designate new ACECs and expand and reduce existing ACECs; (3) designate new SRMAs and expand and reduce existing SRMAs; (4) create buffer corridors along NSHTs; (5) designate new wildlife allocations; and (6) manage lands with wilderness characteristics to protect those characteristics. The Proposed LUPA also would replace existing multiple-use classes with existing and proposed designations, classifications, and allocations that would allow for some development and some conservation.

The VRM Classes and BLM land designations proposed under the Preferred Alternative would offer protective measures that would avoid or reduce visual impacts. CMAs for visual resources would be established and implemented. The CMAs proposed under the Preferred Alternative would be the same for all action alternatives. These visual resource CMAs and the restrictions and protective measures of the land designations provide a framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

Under the Preferred Alternative, trail management corridors would be established along NSHTs, with a total width of generally 2 miles, approximately 1 mile each side from the centerline. As discussed in Volume II, Section II.3.2.1.2, these trail management corridors would be managed as components of the BLM's NLCS. Where national trails overlap other NLCS lands, the more protective CMAs or land use allocations would apply. All trail management corridors would be designated as VRM Class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state-of-the-art VRM BMPs for renewable energy would be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.

The following summarizes the key points of the impacts of changes to BLM land designations and lands managed for wilderness characteristics on visual resource elements under the Preferred Alternative (see Appendix R2, Table R2.20-4 for detailed, quantitative data and analysis):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural, and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands (3.9 million acres) with which they coincide.
- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands (1.4 million acres) with which they coincide.
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class IV lands with which they coincide.
- **Lands Managed for Wilderness Characteristics:** Management strategies to protect wilderness characteristics would benefit visual resources, particularly the VRI Class II, III, and IV lands (approximately 545,000 acres) with which they coincide.
- **Trail Management Corridors:** One effect of the 2-mile-wide corridors would be to provide a higher level of protection (VRM Class II objectives) to the VRM Class III and IV lands that would otherwise be managed under less restrictive visual management objectives. Importantly, the trail management corridors would provide a consistent framework for protecting and managing scenic values along NSHTs within national park and California State Park lands. Trail management corridors are not established under the No Action Alternative.
- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands (approximately 384,000 acres) with which they coincide.

The Preferred Alternative would assign VRM classes to all BLM-managed lands within the LUPA Decision Area. Generally, a low correlation between the VRM classes and the underlying VRI classes (e.g., VRI Class II or III lands managed to meet the objectives of VRM Class IV) would result in greater adverse impacts to visual quality. Conversely, impacts would most likely be less for alternatives proposing visual management that either closely corresponds to the VRI classes or proposing a more restrictive (higher) class designation (e.g., proposing VRM Class II management of VRI Class III lands).

Under the Preferred Alternative, VRI Class lands within the proposed VRM Classes on BLM-managed lands would be as indicated in Table IV.20-4. Key effects of VRM classifications on VRI lands under the Preferred Alternative are summarized below:

- **VRM Designations:** The majority of inventoried lands would be designated as VRM Class I, II, or III. Less than 13% would be designated as VRM Class IV.
- **VRI Class I:** 99% of VRI Class I lands would be managed as VRM Class I, reflecting a high correlation to the highest level of management protection.
- **VRI Class II:** Approximately 73% of VRI Class II lands would be managed as VRM Class II or I, reflecting a strong correlation to the highest levels of management protection. Approximately 22% would be managed as VRM Class III, and approximately 5% would be managed as VRM Class IV.
- **VRI Class III:** More than 80% of VRI Class III lands would be managed as VRM Class III, II, or I, reflecting a moderate to high level of management protection. Approximately 31% would be managed to meet VRM Class II objectives, which restrict visual contrast and impact more than the VRM Class III objectives do. Approximately 53% would be managed as VRM Class III, and 16% would be managed as VRM Class IV, which allows for more visual contrast and impact than the VRM Class III objectives.
- **VRI Class IV:** Approximately 40% of VRI Class IV lands would be managed as VRM Class I, II, or III, all of which restrict visual contrast and impact more than the VRM Class IV objectives do; 60% would be managed as VRM Class IV.

Under the Preferred Alternative, all DFAs would be managed as VRM Class IV lands to allow for utility-scale development. In those cases, implementation or incorporation of BMPs as well as the VRM Class IV objectives would still be required to reduce the visual contrast levels of proposed facilities to the extent practicable.

Table IV.20-4
VRI Classes within Proposed VRM Classes in the LUPA Decision Area – Preferred Alternative

Proposed LUPA VRM Class Designations	Existing Visual Resource Inventory Classes								Total
	VRI Class I		*VRI Class II*		*VRI Class III*		*VRI Class IV*		
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	
VRM Class I	3,825,000	99%	7,000	<1%	3,000	<1%	800	<1%	**3,836,000**
VRM Class II	11,000	<1%	1,584,000	73%	867,000	31%	334,000	11%	**2,796,000**
VRM Class III	0	0%	476,000	22%	1,471,000	53%	813,000	28%	**2,759,000**
VRM Class IV	0	0%	112,000	5%	431,000	16%	814,000	60%	**1,357,000**
Total	**3,836,000**	**100%**	**2,179,000**	**100%**	**2,771,000**	**100%**	**1,962,000**	**100%**	**10,748,000**

Note: VRI Class I represents the highest level of inventoried visual resource values; VRM Class I represents the most restrictive visual management objectives. The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

IV.20.3.2.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area would be the same under all alternatives. These are as described for the No Action Alternative in Section IV.20.3.1.3.

IV.20.3.2.4 Comparison of the Preferred Alternative With No Action Alternative

Similar types of visual impacts are expected to occur under both the Preferred and No Action Alternatives, based on the assumptions that California's renewable energy goals would be achieved in either case. The impacts would vary in geographic distribution and in the mitigation measures applied to them. Importantly, the Preferred Alternative by designation of DFAs would concentrate development in smaller and less sensitive areas, whereas development under the No Action Alternative is not similarly constrained.

Geographic Distribution. Under the Preferred Alternative, the eastern-northeastern portion of the LUPA Decision Area, where there are large areas set aside as national parks, preserves, and wilderness, has the lowest concentration of DFAs. As a result, fewer renewable energy projects would be visible from extensive areas of existing or proposed conservation. from a scenery management perspective, the concentration of development, especially when facilities are visually intrusive, could increase localized adverse impacts as compared with the No Action Alternative, which would continue to allow renewable energy development across a larger area of the desert. However, under the Preferred Alternative, overall impacts would be much lower, because the visual integrity of the large-scale open desert landscapes would not be as compromised by concentrated development in DFAs as it would be by the more widely dispersed development of the No Action Alternative.

The severity of visual impacts also relates to expectations of viewers who are seeking to enjoy the undeveloped desert environment. The areas of the eastern LUPA Decision Area are sensitive because they contain the Mojave National Preserve, Death Valley National Monument, and several BLM wilderness areas. The Preferred Alternative generally avoids development in these areas. However, the Preferred Alternative does include solar development in the entire East Riverside Solar Energy Zone, which is visible from Joshua Tree National Park as well from BLM wilderness areas.

Extent of Potential Renewable Energy Development. The area in which development could occur under the No Action Alternative is many times greater than the area of DFAs under the Preferred Alternative (2.8 million acres of ADAs under No Action Alternative compared with 388,000 acres of DFAs in the Preferred Alternative). The more constrained development within the DFAs of the Preferred Alternative would result in much smaller areas of the desert in which renewable energy development could create visual impacts.

The following summarizes the key points in comparing the Preferred Alternative's visual impacts from renewable energy and transmission development to those of the No Action Alternative (see Appendix R2, Table R2.20-3 and R2.20-4 for detailed data):

- **VRI Classes:** Under the Preferred Alternative, there would be approximately 19,000 acres of VRI Class II lands, 54,000 acres of VRI Class III lands, and 28,000 acres of VRI Class IV lands within DFAs. Per the CMAs for visual resources, the 73,000 acres of VRI Class II and III lands within DFAs would be managed as VRM Class IV and thereby could sustain a degradation of underlying scenic values as identified by BLM's completed visual inventories (described in Volume III). Approximately 13,000 acres of transmission would occur on inventoried lands.

  Under the No Action Alternative, 36,000 acres of VRI Class II, 41,000 acres of VRI Class III, and 35,000 acres of VRI Class IV lands occur in ADAs and approximately the same amount of transmission as there would be under the Preferred Alternative.

- **VRM Classes:** Unlike the No Action Alternative, the Preferred Alternative would assign VRM Classes to all BLM lands and apply VRM objectives to proposed development. Under the Preferred Alternative, all DFAs would be managed as VRM Class IV. This would include approximately 7,000 acres of VRM Class II and III, which would otherwise be subject to management under more restrictive objectives than VRM Class IV (see Figure IV.20-2). Approximately 14,000 acres of transmission would occur, the majority of which would be on VRM Class III and IV lands.

  Under the No Action Alternative, which does not assign new VRM Classes, there are 3,000 acres of VRM Class II or III lands in ADAs and approximately 40 acres of transmission on those lands.

- **National Parks and Preserves:** As with the No Action Alternative, the footprint of renewable energy projects would not directly affect these lands under the Preferred Alternative, but project facilities and activities that are visible from national parks and preserves would diminish scenic quality for viewers in those conservation areas, where expectations for scenic quality are typically high.

- **National Scenic Byways:** No segments of the Bradshaw Trail National Back Country Byway would be within DFAs under the Preferred Alternative, and less than 1 mile would be in ADAs under the No Action Alternative.

- **National Scenic and Historic Trails:** Under the Preferred Alternative, less than 1 mile of NSHTs alignment would be within a DFA, compared to 20 miles under the No Action Alternative.

  As with national parks and preserves, any renewable energy project facilities and activities visible from national trails could diminish scenic quality for trail users,

where expectations for scenic quality are typically high. However, under the Preferred Alternative, trail management corridors would be established along NSHTs, with a total width of generally 2 miles, approximately 1 mile each side from the centerline (see Section IV.20.2.2, Impacts of Ecological and Cultural Conservation and Recreation Designations). No trail management corridors would be established under the No Action Alternative.

- **Proximity of Visual Resources to DFAs.** Visual resource elements within 5 miles of development areas in the Preferred Alternative can be compared to those in the No Action Alternative. This information is summarized in Table IV.20-5. The Preferred Alternative has far fewer visual resource elements within 5 miles of DFAs, as compared with the same 5-mile distance from ADAs under the No Action Alternative. One example of this is the acres of VRI Class I lands: approximately 1,847,000 acres are within 5 miles of development areas under the No Action Alternative compared with 322,000 acres under the Preferred Alternative. There is more than 100 times the amount of national parks and preserves area within 5 miles of development areas under the No Action Alternative as there would be under the Preferred Alternative.

  This 5-mile distance is particularly important for visual resources, because 5 miles is typically used as a measure of foreground and middleground distance zones, where management activities and changes in the landscape might be viewed in detail. The outer boundary of this distance zone is defined as the point where the texture and form of individual plants are no longer apparent in the landscape (BLM 1984).

Conservation Designations. VRM Classes have been assigned to BLM-managed lands within the Bishop and Bakersfield RMPs, the Imperial Sand Dunes RAMP, and by BLM policy to wilderness areas and WSAs. (This would be the situation under the No Action Alternative.) The Preferred Alternative would also assign VRM Classes to the majority of BLM lands within the CDCA. This would provide a unifying framework and an established system for addressing visual resources throughout the desert and would eliminate the need to address visual resources under multiple-use classes, which would be replaced by the Proposed LUPA.

BLM conservation designations under the Preferred Alternative would total approximately 4,982,000 acres, compared to approximately 2,407,000 acres under the No Action Alternative, an increase of nearly 50% in areas managed in ways that benefit and protect visual resources.

Additionally, the Preferred Alternative proposes 2-mile-wide trail management corridors, which would not occur under the No Action Alternative. Therefore, the scenic values and

viewer experience along NSHTs would have a much higher level of protection under the Preferred Alternative than under the No Action Alternative.

In summary, the composition and structure of the Preferred Alternative would provide far greater opportunities for the avoidance, reduction, and minimization of visual impacts than the No Action Alternative. Table IV.20-5 compares the No Action Alternative to the Preferred Alternative for key visual elements occurring within development areas and within 5 miles of development areas. The latter information is included because project visual impacts can extend to lands outside development areas.

Table IV.20-5
Affected Visual Resources – No Action Alternative Compared to Preferred Alternative

	No Action Alternative	Preferred Alternative**
Development Areas (acres)		
ADA[1]	2,804,000	—
DFA[2]	—	388,000
Visual Resource Elements Within Potential Renewable Energy Project Impact Areas (acres unless otherwise indicated)		
VRI [Class]	0 [I] 36,000 [II] 41,000 [III] 35,000 [IV]	0 [I] 19,000 [II] 53,000 [III] 28,000 [IV]
VRM [Class]	0 [I] 10 [II] 3,000 [III] 0 [IV]	0 [I] 2,000 [II] 5,000 [III] 93,000 [IV]
National Scenic Byways	1 mi.	0
National Scenic and Historic Trails	20 mi.	1 mi.
Wild and Scenic Rivers	0	0
Visual Resource Elements Within 5 miles of Development Areas (acres unless otherwise indicated)		
VRI [Class]	1,847,000[I] 965,000 [II] 1,549,000 [III] 1,607,000 [IV]	322,000 [I] 388,000 [II] 645,000 [III] 680,000 [IV]
VRM [Class]	1,827,000 [I] 71,000 [II] 64,000 [III] 10,000 [IV]	309,000[I] 409,000 [II] 674,000 [III] 652,000 [IV]
National Scenic Byways	83 mi.	9 mi.
National Parks and Preserves	1,670,000	14,000
National Scenic and Historic Trails	757 mi.	240 mi.

Table IV.20-5
Affected Visual Resources – No Action Alternative Compared to Preferred Alternative

	No Action Alternative	Preferred Alternative**
Trail Management Corridors	N.A.	158,000
Wild and Scenic Rivers	22 mi.	0
BLM Conservation Designations (acres)		
Existing and Proposed	2,407,000	4,982,000

[1] Applies only to No Action Alternative
[2] Applies only to action alternatives.
** Based on DFAs
BLM Conservation Designations: Include existing and proposed NLCS, ACECs, and wildlife allocations
Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

Compared to the No Action Alternative, the Preferred Alternative would result in a higher potential for retaining the integrity of the inventoried visual resource values and, consequently, a lower level of potential visual impact to those values compared with the No Action Alternative. The designation of VRM Classes throughout the CDCA would have the value of providing the level of visual change allowed prior to an area being considered for projects that would introduce change. Currently in the CDCA, VRM Classes are designated only for the Bishop and Bakersfield field offices, the Imperial Sand Dunes RAMP, wilderness areas, and WSAs.

In summary, the composition and structure of the Preferred Alternative would provide far greater opportunities for the avoidance, reduction, and minimization of visual impacts than the No Action Alternative.

IV.20.3.3 Alternative 1

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission on BLM-managed land under the LUPA and the impacts of the amended land use plans themselves.

IV.20.3.3.1 Impacts of Renewable Energy and Transmission Development –Alternative 1

Proposed VRM Classifications under Alternative 1 are shown in Figure IV.20-3. Alternative 1 includes approximately 81,000 acres of DFAs, and approximately 4,863,000 acres of existing and proposed BLM conservation designations (see Table IV.1-1 and Table IV.20-1). The DFAs in Alternative 1 would be focused in the Imperial Valley, Lucerne Valley, and Barstow area.

Alternative 1 has fewer DFAs in eastern Riverside and the Tehachapi area and very small DFAs along the U.S. 395 corridor. The visual impacts resulting from Alternative 1 are summarized below (see Appendix R2.20, Table R2.20-5 for additional detail).

Impact VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.

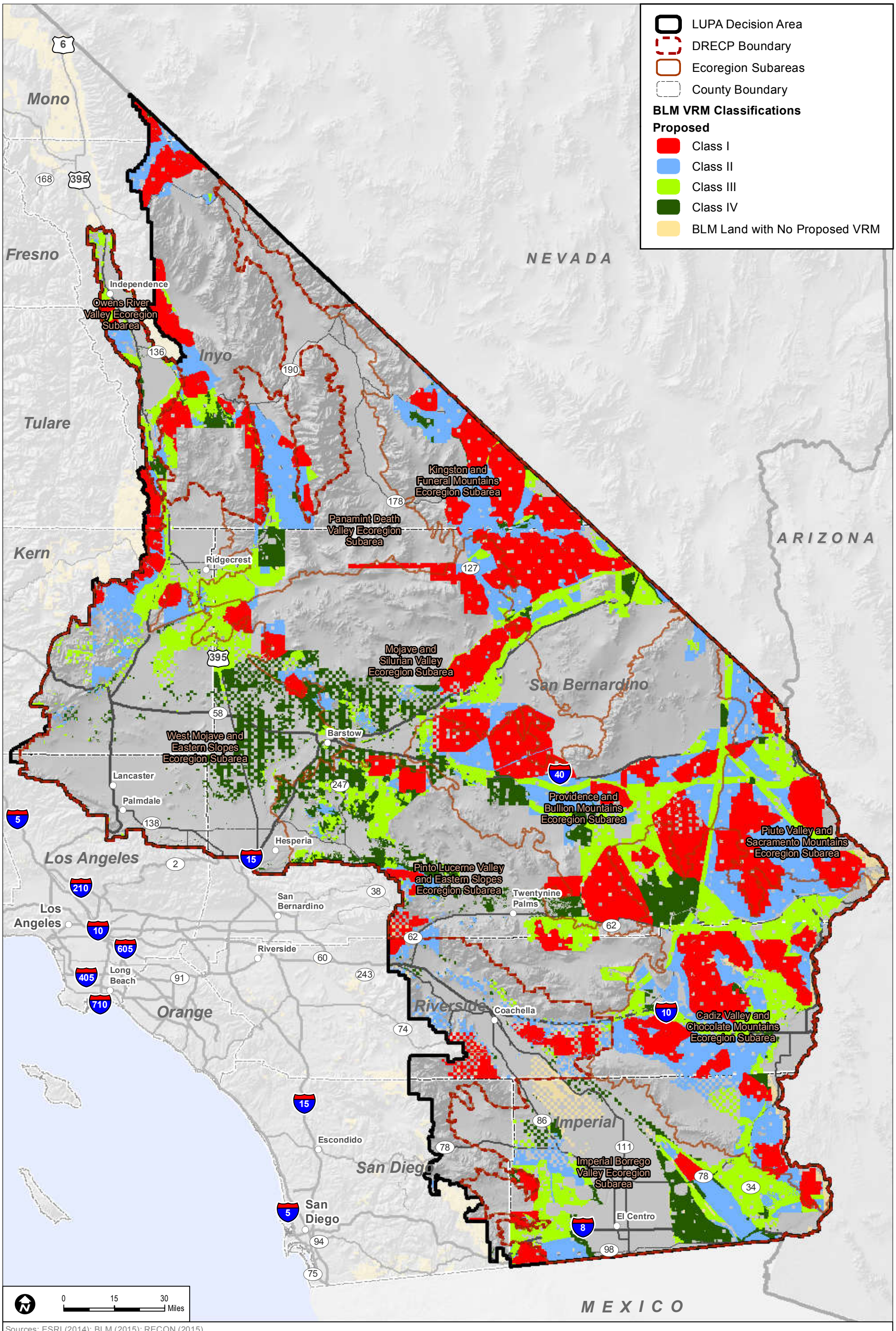
Preconstruction activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include road upgrading, damage to or removal of native vegetation, construction of meteorological towers, drilling of temperature gradient wells, vehicles, and lighting.

During construction and decommissioning, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include dust and exhaust emissions, removal of vegetation during site clearing, contouring and grading, presence of vehicles and equipment, mobilization and demobilization activities, material delivery and staging, assembly of components, site lighting, and construction of and later removal of structures.

Impact VR-2: The presence of project components and disturbance would result in long-term diminished scenic quality.

The continued presence of equipment, structures, fencing, roads and other elements required to operate a facility would have a long-term adverse effect on the visible landscape. Areas of persistent surface and vegetation disturbance and the presence of structures would create visual contrast in form, line, color, and texture compared with pre-project conditions. Depending on viewer location, physical elements introduced by a project could block views or create skylining. Even after project removal and site reclamation are completed, visual contrast would remain. Restoring the natural, pre-disturbance visual character of a desert environment is extremely difficult, can take decades, and often is unsuccessful. Therefore, surface and vegetation disturbance would create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes.

The structure, size, and industrial character of utility-scale renewable energy and transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.



Sources: ESRI (2014); BLM (2015); RECON (2015)

FIGURE IV.20-3

Proposed BLM Visual Resource Management Classifications – Alternative 1

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Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a BLM LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance process before the BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under Alternative 1, there are 35,000 acres of Variance Process Lands in the LUPA Decision Area. Development of Variance Process lands may impact visual resources; however, CMAs would avoid or minimize impacts. These lands are found in the following areas:

- East of Highway 395, north of Independence in Inyo County
- South of Sandy Valley along the California/Nevada border
- West of Needles
- Near State Route 62, west of Parker, Arizona, near the California/Arizona border
- North of Blythe, immediately south of the Big Maria Mountains Wilderness
- South of State Route 98, east of Imperial Valley, along the California/Mexico border
- Near Hidden Hills
- South of Historic Route 66, east of Marine Corps Air-Ground Combat Center (MCAGCC) Twentynine Palms, and both east and west of the City of Twentynine Palms
- Near the Big Maria Mountain Wilderness

Conservation and Management Actions

The conservation strategy for Alternative 1 (presented in Volume II, Section II.4.4) includes the visual resource CMAs for the Preferred Alternative and all action alternatives. These visual resource CMAs provide a comprehensive framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

IV.20.3.3.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Alternative 1

Over 5 million acres of the LUPA Decision Area under Alternative 1 would be composed of conservation designations, including NLCS lands, ACECs, and wildlife allocations. This

would result in the protection of visual resources because of the limitations on development incorporated in existing laws and regulations and in the CMAs associated with the BLM land designations.

Alternative 1 would establish VRM classes for all lands in the CDCA (currently, only the Bishop and Bakersfield RMPs and the Imperial Sand Dunes RAMP have VRM Classes designated). In accordance with BLM policy, all wilderness areas and WSAs are managed as VRM Class I. It also would (1) designate new NLCS lands; (2) designate new ACECs and expand and reduce existing ACECs; (3) designate new SRMAs and expand and reduce existing SRMAs; (4) create management corridors along NSHTs; (5) manage lands with wilderness characteristics to protect those characteristics; and, (6) designate new wildlife allocations. The Proposed LUPA would also replace the existing multiple-use classes.

The VRM Classes and other BLM land designations proposed under Alternative 1 would extend protective measures to these areas that would avoid or reduce visual impacts. As with the Preferred Alternative, CMAs for visual resources would be established and implemented. The BLM-specific CMAs proposed under the Preferred Alternative would be the same for all action Alternatives. Together, these visual resource CMAs and the restrictions and protective measures of the land designations provide a mutually supportive framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

Under Alternative 1, trail management corridors would be established along NSHTs, at a width of generally 0.25 mile from the centerline of the trail, for a total width of 0.5 mile (compared with the total width of 2 miles under the Preferred Alternative). As discussed in Volume II, Section II.3.2.1.2, these trail management corridors would be managed as components of the BLM's NLCS. Where national trails overlap other NLCS lands, the more protective CMAs or land use allocations would apply. All trail management corridors would be designated as VRM Class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state-of-the-art VRM BMPs for renewable energy would be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.

The following summarizes the key points of the impacts of changes to BLM land designations and lands managed for wilderness characteristics on visual resource elements under Alternative 1 (see Appendix R2, Table R2.20-6 for detailed, quantitative data and analysis):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural, and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands with which they coincide (1.65 million acres).

- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (2.9 million acres).
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class III and IV lands with which they coincide (approximately 528,000 acres).
- **Lands Managed for Wilderness Characteristics:** No lands managed would be managed to protect wilderness characteristics under Alternative 1. Under the Preferred Alternative, these lands would be managed as VRM Class II. Other management strategies to protect the wilderness characteristics of these lands would benefit visual resources.
- **Trail Management Corridors:** The primary effect of these 0.5-mile-wide corridors under Alternative 1 would be to provide a consistent framework for protecting and managing scenic values along national scenic trails within national park and California State Park lands. As with the Preferred Alternative, the trail management corridors would be managed to meet the visual management objectives of VRM Class II.
- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands with which they coincide (approximately 434,000 acres).

Alternative 1 would assign VRM classes to all BLM-managed lands within the LUPA Decision Area. Generally, a low correlation between the VRM classes and the underlying VRI classes would result in greater adverse impacts to visual quality (e.g., VRI Class II or III lands managed to meet the objectives of a VRM Class IV). Conversely, impacts would most likely be minimized by alternatives proposing visual management that either closely corresponds to the VRI classes, or proposing a more restrictive (higher) class designation (e.g., VRM Class II proposed for VRI Class III lands).

Under Alternative 1, VRI Class lands within the proposed VRM Classes on BLM-managed lands would be as indicated in Table IV.20-6. Key effects of VRM classifications on VRI lands under Alternative 1 are summarized below:

- **VRM Designations:** As with the Preferred Alternative, the majority of lands would be designated as VRM Class I, II, or III; and approximately 13% would be designated as VRM Class IV.

- **VRI Class I:** 99% of VRI Class I lands would be managed as VRM Class I, reflecting a high level of management protection.
- **VRI Class II:** As with the Preferred Alternative, more than 77% of VRI Class II lands would be managed as VRM Class II or I, reflecting a moderately high level of management protection. Approximately 23% would be managed as VRM Class III or IV, which allows for more visual contrast and impact than the VRM Class II objectives allow over the affected acres.
- **VRI Class III:** Approximately 91% of VRI Class III lands would be managed as VRM Class III, II, or I, reflecting a high correlation and level of management protection. Approximately 34% would be managed to meet VRM Class II objectives, which restrict visual contrast and impact more than VRM Class III. Approximately 9% would be managed as VRM Class IV, which allows for more visual contrast and impact than the VRM Class III objectives allow.
- **VRI Class IV:** Approximately 42% of VRI Class IV lands would be managed as VRM Class III, II, or I, reflecting more restrictive management than the VRM Class IV objectives allow; and approximately 58% would be managed as VRM Class IV.

Under the proposed CMAs, all DFAs would be managed as VRM Class IV lands to allow for utility-scale development. In those cases, implementation or incorporation of BMPs would still be required to reduce the visual contrast levels of proposed facilities to the extent practicable.

IV.20.3.3.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area would be the same under all alternatives. These are as described for the No Action Alternative in Section IV.20.3.1.3.

Table IV.20-6
VRI Classes within Proposed VRM Classes in the LUPA Decision Area – Alternative 1

Proposed LUPA VRM Class Designations	Existing Visual Resource Inventory Classes								Total
	VRI Class I		*VRI Class II*		*VRI Class III*		*VRI Class IV*		
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	
VRM Class I	3,830,000	99%	7,000	0%	3,000	0%	800	0%	**3,841,000**
VRM Class II	2,000	<1%	1,716,000	77%	950,000	34%	269,000	14%	**2,937,000**
VRM Class III	0	0%	445,000	20%	1,606,000	57%	554,000	28%	**2,605,000**
VRM Class IV	0	0%	57,000	3%	250,000	9%	1,140,000	58%	**1,447,000**
Total	**3,832,000**	**100%**	**2,225,000**	**100%**	**2,809,000**	**100%**	**1,964,000**	**100%**	**10,830,000**

Note: VRI Class I represents the highest level of inventoried visual resource values; VRM Class I represents the most restrictive visual management objectives. The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

IV.20.3.3.4 Comparison of Alternative 1 With the Preferred Alternative

Although similar visual impacts would occur under both Alternative 1 and the Preferred Alternative, based on the assumption that California's renewable energy goals would be achieved in any case, the impacts would vary in key ways, as summarized below.

Geographic Distribution. As with the DFAs of the Preferred Alternative, the DFAs under Alternative 1 are restricted in distribution and concentrated in areas considered less environmentally sensitive. The severity of visual impacts depends partly on the number of potential viewers. Alternative 1 has a smaller DFA in the more populated West Mojave area. As a result, less new development would be added to the existing visual disturbance experienced by residents in the Mojave, Lancaster, and Palmdale areas due to extensive wind and solar development in those areas.

The severity of visual impacts also relates to expectations of viewers for pristine desert vistas. The eastern and northeastern parts of the LUPA Decision Area are sensitive because they contain the Mojave National Preserve, Death Valley National Monument, and several BLM wilderness areas. Alternative 1 completely avoids development in these areas, and does not include Variance Process Lands near these Legislatively and Legally Protected Areas.

Extent of Potential Renewable Energy Development. Although the geographic distribution of DFAs is generally similar under Alternative 1 and the Preferred Alternative, the scale and extent of the DFAs vary. The DFAs under the Preferred Alternative are nearly five times greater than those of Alternative 1 (388,000 acres of DFAs for the Preferred Alternative compared with approximately 81,000 acres for Alternative 1). The smaller DFAs would result in more concentrated development under Alternative 1, with renewable energy projects being visible from far fewer areas than with the Preferred Alternative. This represents a more confined area in which visual impacts would occur than under the Preferred Alternative.

The following summarizes the key points in comparing the visual impacts from renewable energy and transmission development under Alternative 1 with those of the Preferred Alternative (see Appendix R2, Table R2.20-5 for detailed, quantitative data and analysis):

- **VRI Classes:** Under Alternative 1, there would be approximately 4,000 acres of VRI Class II lands, 8,000 acres of VRI Class III lands, and 7,000 acres of VRI Class IV lands within DFAs. Per the CMAs for visual resources, these 15,000 acres of VRI Class II and III lands within DFAs would be managed as VRM Class IV and thereby sustain a potential degradation of underlying scenic values. Approximately 12,000 acres of transmission would occur on inventoried lands, compared with 13,000 acres under the Preferred Alternative.

A much larger amount of VRI Class II and III lands within DFAs would be managed as VRM IV under the Preferred Alternative than under Alternative 1. This reflects a potential degradation of underlying scenic values under Alternative 1, but to a lesser extent than under the Preferred Alternative.

- **VRM Classes:** Alternative 1 would assign VRM Classes to all BLM lands and apply VRM objectives to proposed development. Under Alternative 1, all DFAs would be managed as VRM Class IV. Approximately 12,000 acres of transmission would occur on VRM-classified lands, compared with a slightly larger amount of 13,000 acres under the Preferred Alternative.
- **National Parks and Preserves:** These lands would not be within the DFA footprint under Alternative 1 or the Preferred Alternative. Although the footprint of renewable energy projects would not directly affect these lands, project facilities and activities that are visible from national parks and preserves would diminish scenic quality for viewers in those conservation areas, where expectations for scenic quality are typically high.
- **National Scenic Byways:** No segments of the Bradshaw Trail National Back Country Byway would be within DFAs under either Alternative 1 or the Preferred Alternative.
- **National Scenic and Historic Trails:** Approximately 0.2 mile of the Old Spanish National Historic Trail alignment would be within DFAs under Alternative 1.
- **Wild and Scenic Rivers:** The majority of the designated Amargosa Wild and Scenic River corridor segments would be within BLM land designations under both Alternative 1 and the Preferred Alternative.
- **Proximity of Visual Resources to DFAs.** Table IV.20-7 shows that Alternative 1 has generally fewer visual resource elements within 5 miles of DFAs than the Preferred Alternative. One example of this is the area of VRI Class I: there are 322,000 acres under the Preferred Alternative compared with 160,000 acres under Alternative 1. For trail management corridors, there would be about 4 times as many acres within this 5-mile distance under the Preferred Alternative than there would be under Alternative 1.

Conservation Designations. Alternative 1 has slightly more acreage in BLM land designations and lands with wilderness characteristics than the Preferred Alternative. The conservation strategy emphasizes avoidance of impacts to visually sensitive areas.

The Proposed LUPA under Alternative 1 would assign VRM Classes to the majority BLM-managed lands within the CDCA, as would the Preferred Alternative. For both alternatives, this would provide a unifying framework and an established system for addressing visual resources.

Table IV.20-7
Affected Visual Resources – Preferred Alternative Compared to Alternative 1

	Preferred Alternative	Alternative 1
Development Areas (acres)		
DFAs	388,000	81,000
Visual Resource Elements Within Development Areas (acres unless otherwise indicated)		
VRI [Class]	0 [I] 19,000 [II] 53,000 [III] 28,000 [IV]	0 [I] 4,000[II] 9,000 [III] 8,000 [IV]
VRM [Class]	0 [I] 2,000 [II] 5,000 [III] 93,000 [IV]	0 [I] 10 [II] 300 [III] 20,000 [IV]
National Scenic Byways	0	0
National Scenic and Historic Trails	1 mi.	2 mi.
Wild and Scenic Rivers	0	0
Visual Resource Elements Within 5 miles of Development Areas (acres unless otherwise indicated)		
VRI [Class]	322,000 [I] 388,000 [II] 645,000 [III] 680,000 [IV]	160,000 [I] 303,000 [II] 509,000 [III] 478,000 [IV]
VRM [Class]	309,000[I] 409,000 [II] 674,000 [III] 652,000 [IV]	160,000 [I] 285,000 [II] 516,000 [III] 466,000 [IV]
National Scenic Byways	9 mi.	7 mi.
National Parks and Preserves	14,000	15,000
National Scenic and Historic Trails	240 mi.	212 mi.
Trail Management Corridors	158,000	40,000
Wild and Scenic Rivers	0	0
BLM Conservation Designations (acres)		
Existing and Proposed	4,982,000	4,878,000

BLM Conservation Designations: Include existing and proposed NLCS, ACECs, and wildlife allocations
Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

The key difference is that Alternative 1 would have far fewer VRI Class II and III lands (12,000 acres) in DFAs than would the Preferred Alternative (73,000 acres). This

difference in the potential area of land disturbance impacts would result in a much smaller area of land potentially subject to visual impacts under Alternative 1 than under the Preferred Alternative. However, because Alternative 1 proposes 0.5-mile-wide trail management corridors, compared with the much greater 2-mile-wide corridors under the Preferred Alternative, the scenic values and viewer experience along NSHTs would have a lower level of protection under Alternative 1 than under the Preferred Alternative.

The following summarizes the key points in visual impacts of BLM land designations and lands managed for wilderness characteristics for Alternative 1 compared with those of the Preferred Alternative (see Appendix R2, Tables R2.20-5 and R2.20-6 for detailed data):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural, and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands with which they coincide (1.65 million acres, compared to 3.9 million acres under the Preferred Alternative).
- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (2.9 million acres, compared with 1.4 million acres under the Preferred Alternative).
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class III and IV lands with which they coincide (approximately 528,000 acres, compared with 18,000 acres under the Preferred Alternative).
- **Lands Managed for Wilderness Characteristics:** No lands managed would be managed to protect wilderness characteristics under Alternative 1. Under the Preferred Alternative, these lands would be managed as VRM Class II. Other management strategies to protect the wilderness characteristics of these lands would benefit visual resources.
- **Trail Management Corridors:** The primary effect of these 0.5-mile-wide corridors under Alternative 1 would be to provide a consistent framework for protecting and managing scenic values along national scenic trails within national park and California State Park lands. As with the Preferred Alternative, the trail management corridors would be managed to meet the visual management objectives of VRM Class II.
- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands with which they coincide (approximately 460,000 acres).

Alternative 1 includes 81,000 acres of DFAs and 4,878,000 acres of conservation designations (NLCS, ACEC, and wildlife allocations). For reference, Table IV.20-7 compares the Preferred Alternative to Alternative 1 for key visual elements.

Compared with the Preferred Alternative, Alternative 1 would result in a similar, but somewhat higher level of correlation between VRI values and the proposed VRM Classes. Overall, visual resource protection would benefit under Alternative 1 by the designation of VRM Classes throughout the CDCA.

In summary, the composition and structure of Alternative 1 would provide greater opportunities for the avoidance, reduction, and minimization of visual impacts from renewable energy development, but would result in greater impacts from transmission corridors, compared with the Preferred Alternative.

IV.20.3.4 Alternative 2

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission on BLM-managed land under the LUPA and the impacts of the amended land use plans themselves.

IV.20.3.4.1 Impacts of Renewable Energy and Transmission Development –Alternative 2

Proposed VRM Classifications under Alternative 2 are shown in Figure IV.20-4. Alternative 2 includes approximately 718,000 acres of DFAs, and approximately 5.5 million acres of existing and proposed BLM conservation designations (see Table IV.1-1 and Table IV.20-1). Transmission development and operation activities would be permitted both inside and outside the DFAs. Visual impacts from solar and wind development would be dispersed, with expanded wind opportunities.

Visual impacts from geothermal energy would occur in the Imperial Borrego Valley and Owens River Valley ecoregion subareas, as they would under the Preferred Alternative.

The visual impacts resulting from Alternative 2 are summarized below (see Appendix R2.20, Table R2.20-7 for additional detail).

Impact VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.

Preconstruction activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples

include road upgrading, damage to or removal of native vegetation, construction of meteorological towers, drilling of temperature gradient wells, vehicles, and lighting.

During construction and decommissioning, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include dust and exhaust emissions, removal of vegetation during site clearing, contouring and grading, presence of vehicles and equipment, mobilization and demobilization activities, material delivery and staging, assembly of components, site lighting, and construction of and later removal of structures.

Impact VR-2: The presence of project components and disturbance would result in long-term diminished scenic quality.

The continued presence of equipment, structures, fencing, roads and other elements required to operate a facility would have a long-term adverse effect on the visible landscape. Areas of persistent surface and vegetation disturbance and the presence of structures would create visual contrast in form, line, color, and texture as compared with pre-project conditions. Depending on viewer location, physical elements introduced by a project could block views or create skylining. Even after project removal and site reclamation are completed, visual contrast would remain. Restoring the natural, pre-disturbance visual character of a desert environment is extremely difficult, can take decades, and often is unsuccessful. Therefore, surface and vegetation disturbance would create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes.

The structure, size, and industrial character of utility-scale renewable energy and transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a BLM LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance process before the BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under Alternative 2, there are 29,000 acres of Variance Process Lands in the LUPA Decision Area. These lands are found in the following areas:

- Immediately south of MCAGCC Twentynine Palms both east and west of the City of Twentynine Palms
- North of Victorville

Conservation and Management Actions

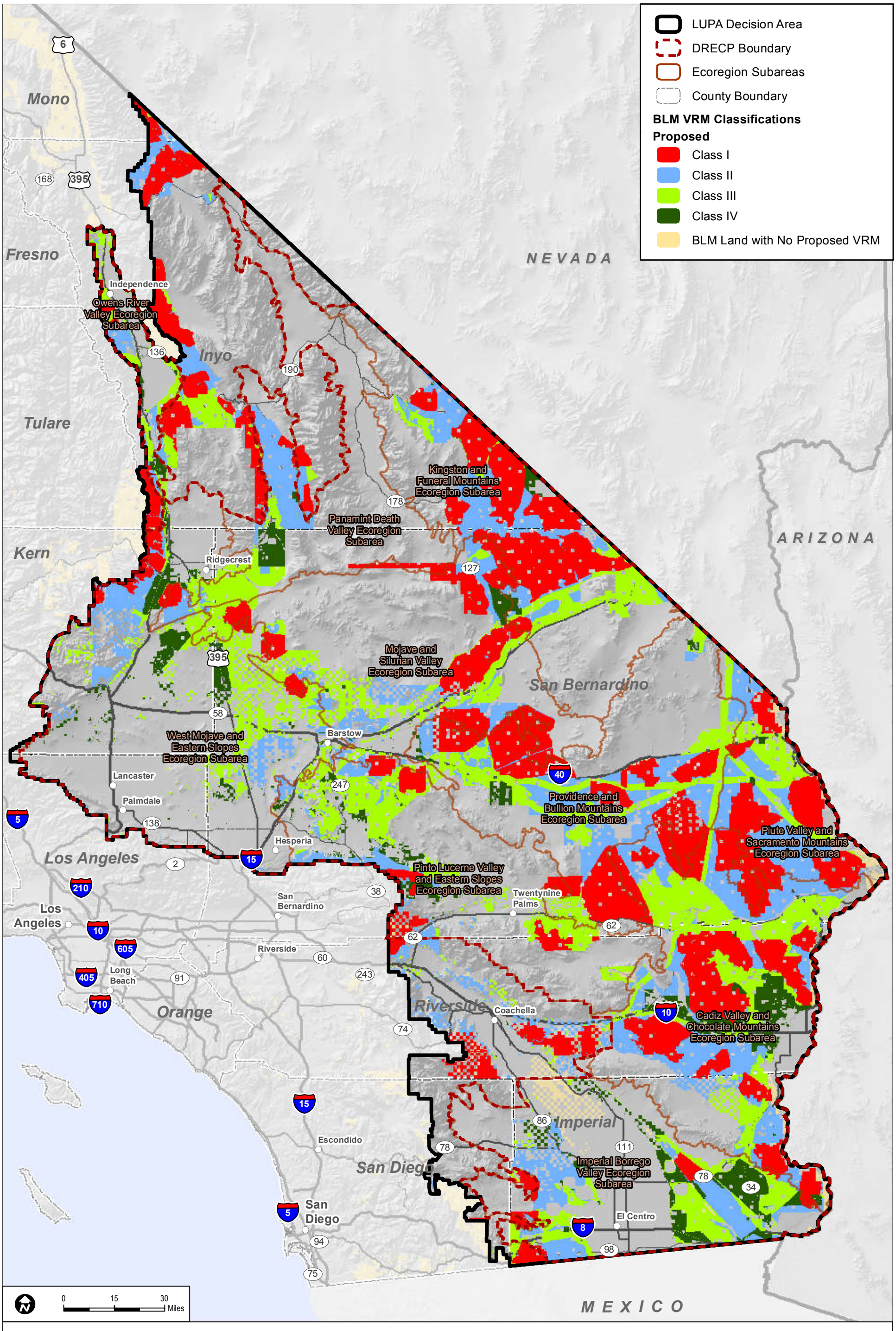
The conservation strategy for Alternative 2 (presented in Volume II, Section II.5.4) includes the visual resource CMAs for the Preferred Alternative and all action alternatives. These visual resource CMAs provide a comprehensive framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

IV.20.3.4.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Alternative 2

Over 5.5 million acres of the LUPA Decision Area under Alternative 2 would be composed of conservation designations, including NLCS lands, ACECs, and wildlife allocations. This would result in the protection of visual resources because of the limitations on development incorporated in existing laws and regulations and in the CMAs associated with the BLM land designations.

Alternative 2 would establish VRM classes for all lands in the CDCA (currently, only the Bishop and Bakersfield RMPs and the Imperial Sand Dunes RAMP have VRM Classes designated). In accordance with BLM policy, all wilderness areas and WSAs are managed as VRM Class I. It would also (1) designate new NLCS lands, (2) designate new ACECs and expand and reduce existing ACECs, (3) designate new SRMAs and expand and reduce existing SRMAs, (4) create buffer corridors along NSHTs, and (5) manage lands with wilderness characteristics to protect those characteristics. The Proposed LUPA would also replace the multiple-use classes.

The VRM Classes and other BLM land designations proposed under Alternative 2 would offer protective measures that would avoid or reduce visual impacts. As with the Preferred Alternative, CMAs for visual resources would be established and implemented. The BLM-specific CMAs proposed under the Preferred Alternative would be the same for all action alternatives. Together, these visual resource CMAs and the restrictions and protective measures of the land designations provide a framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.



Sources: ESRI (2014); BLM (2015); RECON (2015)

FIGURE IV.20-4

Proposed BLM Visual Resource Management Classifications – Alternative 2

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Under Alternative 2, trail management corridors would be established along NSHTs, at a width of generally 10 miles from the centerline of the trail, for a total width of 20 miles (compared with a narrower 2 miles total width under the Preferred Alternative). These trail management corridors would be managed as components of the BLM's NLCS. Where national trails overlap other NLCS lands, the more protective CMAs or land use allocations would apply. All trail management corridors would be designated as VRM Class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state-of-the-art VRM BMPs for renewable energy would be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.

The following summarizes the key points of the impacts of changes to BLM land designations and lands with wilderness characteristics on visual resource elements under Alternative 2 (see Appendix R2, Table R2.20-8 for detailed, quantitative data and analysis):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural, and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands with which they coincide (5.7 million acres).
- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 320,000 acres).
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class III and IV lands with which they coincide (approximately 60 acres).
- **Lands Managed for Wilderness Characteristics:** Under Alternative 2 and all other action alternatives, these lands would be managed as VRM Class II. Other management strategies to protect the wilderness characteristics of lands would benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 317,000 acres).
- **Trail Management Corridors:** As with the Preferred Alternative, under Alternative 2 the trail management corridors would be managed to meet the visual management objectives of VRM Class II. The primary effect of the 20-mile-wide corridors under Alternative 2 would be to provide a consistent framework for protecting and managing scenic values along NSHTs within national park and California State Park lands.

- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands with which they coincide (approximately 400,000 acres).

Alternative 2 would assign VRM classes to all BLM-managed lands within the LUPA Decision Area. Generally, a low correlation between the VRM classes and the VRI classes would result in greater adverse impacts to visual quality (e.g., VRI Class II or III lands being managed as VRM Class IV). Conversely, impacts would most likely be minimized by alternatives proposing visual management that either closely corresponds to the VRI classes or proposes a more restrictive (higher) class designation (e.g., VRM Class II proposed for VRI Class III lands).

Under Alternative 2, VRI Class lands within the proposed VRM Classes on BLM-managed lands would be as indicated in Table IV.20-8.

Key points of the effects of VRM classification on VRI lands under Alternative 2 are summarized here:

- **VRM designations:** The majority of lands would be designated as VRM Class I, II, or III. Less than 10% would be designated as VRM Class IV.
- **VRI Class I:** As with the Preferred Alternative, all VRI Class I lands would be managed as VRM Class I, reflecting a high level of management protection.
- **VRI Class II:** As with the Preferred Alternative, approximately 73% of VRI Class II lands would be managed as VRM Class II or I, reflecting a moderately high level of management protection. Approximately 21% would be managed as VRM Class III or IV, which allows for more visual contrast and impact than the VRM Class II objectives allow.
- **VRI Class III:** Almost 90% of VRI Class III lands would be managed as VRM Class III, II, or I, reflecting a high correlation and level of management protection. Approximately 32% would be managed to meet VRM Class II objectives, which restrict visual contrast and impact more than VRM Class III. Approximately 12% would be managed as VRM Class IV, which allows for more visual contrast and impact than the VRM Class III objectives allow.
- **VRI Class IV:** Approximately 85% of VRI Class IV lands would be managed as VRM Class III, II, or I; 15% would be managed as VRI Class IV.

Under the proposed CMAs, all DFAs would be managed as VRM Class IV lands to allow for utility-scale development. In those cases, implementation or incorporation of BMPs would still be required to reduce the visual contrast levels of proposed facilities to the extent practicable.

IV.20.3.4.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area would be the same under all alternatives. These are as described for the No Action Alternative in Section IV.20.3.1.3.

IV.20.3.4.4 Comparison of Alternative 2 with Preferred Alternative

Although similar visual impacts would occur under both Alternative 2 and the Preferred Alternative, the impacts would vary in key ways, as summarized below.

Geographic Distribution. As with the DFAs of the Preferred Alternative, the DFAs under Alternative 2 are restricted in distribution and concentrated in areas considered less environmentally sensitive. The severity of visual impacts depends partly on the number of potential viewers. Alternative 2 has larger DFAs than the Preferred Alternative in and near the populated West Mojave area. As a result, greater amounts of wind and solar development would be added to the existing visual disturbance experienced by residents in the Mojave, Lancaster, and Palmdale areas due to extensive wind and solar development in those areas.

The severity of visual impacts also relates to expectations of viewers for pristine desert vistas. The eastern and northeastern parts of the LUPA Decision Area are sensitive because they contain the Mojave National Preserve, Death Valley National Monument, and several BLM wilderness areas. Alternative 2 DFAs would encourage development in the Pahrump Valley and the Silurian Valley, both of which offer currently undeveloped approaches to Death Valley.

Extent of Potential Renewable Energy Development. Although the geographic distribution of DFAs is similar under Alternative 2 and the Preferred Alternative, the total size of the DFAs varies. The DFAs would be approximately 330,000 acres smaller under the Preferred Alternative (388,000 acres compared with 718,000 acres for Alternative 2). The larger DFAs in Alternative 2 would result in renewable projects being visible to more viewers than those of the Preferred Alternative.

Table IV.20-8
VRI Classes within Proposed VRM Classes in the LUPA Decision Area – Alternative 2

Proposed LUPA VRM Class Designations	Existing Visual Resource Inventory Classes								Total
	VRI Class I		*VRI Class II*		*VRI Class III*		*VRI Class IV*		
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	
VRM Class I	3,828,000	100%	7,000	0%	3,000	0%	800	0%	3,839,000
VRM Class II	2,000	0%	1,643,000	73%	978,000	32%	476,000	23%	3, 098,000
VRM Class III	0	0%	470,000	21%	1,667,000	56%	1,279,000	62%	3,416,000
VRM Class IV	0	0%	125,000	6%	355,000	12%	306,000	15%	786,000
Total	**3,830,000**	**100%**	**2,245,000**	**100%**	**3,002,000**	**100%**	**2,062,700**	**100%**	**11,139,000**

Note: VRI Class I represents the highest level of inventoried visual resource values; VRM Class I represents the most restrictive visual management objectives. The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

The following summarizes the key points in comparing the visual impacts from renewable energy and transmission development under Alternative 2 to those of the Preferred Alternative (see Appendix R2, Table R2.20-7 for detailed data):

- **VRI Classes:** There would approximately 39,000 acres of VRI Class II lands, 86,000 VRI Class III lands, and no VRI Class I lands within DFAs under Alternative 2. Per the CMAs for visual resources, these 125,000 acres of VRI Class II and III lands within DFAs would be managed as VRM IV and thereby sustain a potential degradation of underlying scenic values. Approximately 12,000 acres of transmission would occur on inventoried lands, compared with 13,000 acres under the Preferred Alternative.

  A smaller amount of VRI Class II and III lands within DFAs would be managed as VRM IV under the Preferred Alternative (73,000 acres) than under Alternative 2 (125,000 acres). This reflects a greater potential for degradation of underlying scenic values under Alternative 2 than under the Preferred Alternative.

- **VRM Classes:** As with the Preferred Alternative, there would be no VRM Class I, II, or III lands in DFAs under Alternative 2 (see Figure IV.20-4).

- **National Parks and Preserves:** These lands would not be within the DFA footprint under Alternative 2 or the Preferred Alternative. Although the footprint of renewable energy projects would not directly affect these lands, project facilities and activities that are visible from national parks and preserves would diminish scenic quality for viewers in those conservation areas, where expectations for scenic quality are typically high.

- **National Scenic Byways:** No segments of the Bradshaw Trail National Back Country Byway would be within DFAs under either Alternative 2 or the Preferred Alternative.

- **National Scenic and Historic Trails:** Approximately 4.4 miles of the Old Spanish National Historic Trail alignment and 0.2 mile of the Juan Bautista de Anza Trail alignment would be within DFAs under Alternative 2 in the LUPA Decision Area, as compared with 0.2 mile of the Old Spanish National Historic Trail alignment under Preferred Alternative.

- **Wild and Scenic Rivers:** No portion of designated or eligible wild and scenic rivers would be within DFAs under Alternative 2 or the Preferred Alternative.

- **Proximity of Visual Resources to DFAs.** Under Alternative 2, visual resource elements within 5 miles of proposed DFAs can be compared with those under the Preferred Alternative, as summarized in Table IV.20-9. Alternative 2 has generally more visual resource elements within 5 miles of DFAs than the Preferred Alternative. One example of this is the acres of VRI Class I: 322,000 acres under the Preferred Alternative compared with 686,000 acres under Alternative 2. For trail

management corridors, there are more than ten times as many acres in this proximity under Alternative 2 than there would be under the Preferred Alternative.

Conservation Designations. Alternative 2 has a similar amount of land in conservation designations as the Preferred Alternative. The conservation strategy emphasizes compensation.

There would be approximately 5,238,000 acres of conservation designations under Alternative 2. This represents a higher level of conservation to the Preferred Alternative. In general, visual resource elements would benefit from the conservation policies and requirements applicable to these lands. Alternative 2 has more acres of BLM LUPA conservation designations than the Preferred Alternative and the most acres of NLCS, SRMAs, and NSHT management corridors of all action alternatives.

Table IV.20-9
Affected Visual Resources – Preferred Alternative Compared to Alternative 2

	Preferred Alternative	Alternative 2
Development Areas (acres)		
DFAs	388,000	718,000
Visual Resource Elements Within Development Areas (acres unless otherwise indicated)		
VRI [Class]	0 [I] 19,000 [II] 53,000 [III] 28,000 [IV]	0 [I] 39,400 [II] 86,000 [III] 66,000 [IV]
VRM [Class]	0 [I] 2,000 [II] 5,000 [III] 93,000 [IV]	0 [I] 0 [II] 0 [III] 191,000 [IV]
National Scenic Byways	0	0
National Scenic and Historic Trails	1 mi.	6 mi.
Wild and Scenic Rivers	0	0
Visual Resource Elements Within 5 miles of Development Areas (acres unless otherwise indicated)		
VRI [Class]	322,000 [I] 388,000 [II] 645,000 [III] 680,000 [IV]	686,000 [I] 691,000 [II] 1,133,000 [III] 941,000 [IV]
VRM [Class]	309,000[I] 409,000 [II] 674,000 [III] 652,000 [IV]	686,000 [I] 1,088,000 [II] 859,000 [III] 759,000 [IV]
National Scenic Byways	9 mi.	13 mi.
National Parks and Preserves	14,000	33,000

Table IV.20-9
Affected Visual Resources – Preferred Alternative Compared to Alternative 2

	Preferred Alternative	Alternative 2
National Scenic and Historic Trails	240 mi.	395 mi.
Trail Management Corridors	158,000	2,479,000
Wild and Scenic Rivers	0	0
BLM Conservation Designations (acres)		
Existing and Proposed	4,982,000	5,238,000

BLM Conservation Designations: Include existing and proposed NLCS, ACECs, and wildlife allocations
Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

The following summarizes the key points in visual impacts of BLM land designations and lands with wilderness characteristics for Alternative 2 compared with those of the Preferred Alternative (see Appendix R2, Table R2.20-8 for detailed data):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural, and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands with which they coincide (5.7 million acres, compared with a smaller amount of 3.9 million acres under the Preferred Alternative).
- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 320,000 acres, compared with a much larger area of 1.4 million acres under the Preferred Alternative).
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class III and IV lands with which they coincide (approximately 60 acres, as compared with a much larger area of 18,000 acres under the Preferred Alternative).
- **Lands Managed for Wilderness Characteristics:** Under Alternative 2 and all other action alternatives, these lands would be managed as VRM Class II. Other management strategies to protect the wilderness characteristics of lands would benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 374,000 acres, compared with 545,000 acres under the Preferred Alternative).

- **Trail Management Corridors:** As with the Preferred Alternative, under Alternative 2 the trail management corridors would be managed to meet the visual management objectives of VRM Class II. The primary effect of the 20-mile-wide corridors under Alternative 2 would be to provide a consistent framework for protecting and managing scenic values along NSHTs within national park and California State Park lands.
- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands with which they coincide (approximately 400,000 acres, compared with a smaller amount of 384,000 acres under the Preferred Alternative).

Alternative 2 would assign VRM Classes to all BLM-managed lands within the CDCA, as would the Preferred Alternative. For both alternatives, this would provide a unifying framework and an established system for addressing visual resources.

The key difference is that Alternative 2 would have more acres of VRI Class II and III lands (approximately 125,000 acres) in DFAs than would the Preferred Alternative (73,000 acres). This difference in the potential area of land disturbance impacts is critical and would result in a larger amount of land potentially subject to visual impacts under Alternative 2 than under the Preferred Alternative. However, because Alternative 2 proposes 20-mile-wide trail management corridors compared with the smaller 2-mile-wide corridors under the Preferred Alternative, the scenic values and viewer experience along NSHTs would have a greater level of protection under Alternative 2.

Compared with the Preferred Alternative, Alternative 2 would result in a similar, but somewhat higher level of correlation between VRI values and the proposed VRM Classes, resulting in a similar potential for retaining the integrity of the inventoried visual resource values. Overall, visual resource protection would benefit under Alternative 2 by the designation of VRM Classes throughout the CDCA.

In summary, the composition and structure of Alternative 2 would provide similar opportunities for the avoidance, reduction, and minimization of visual impacts from renewable energy development, including those from transmission corridors, compared with the Preferred Alternative. The 20-mile width of trail management corridors under Alternative 2 is much wider than that of the Preferred Alternative and therefore would better protect views and visitor experience along NSHTs.

IV.20.3.5 Alternative 3

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission on BLM-managed land under the LUPA and the impacts of the amended land use plans themselves.

IV.20.3.5.1 Impacts of Renewable Energy and Transmission Development –Alternative 3

Proposed VRM Classifications under Alternative 3 are shown in Figure IV.20-5. Alternative 3 includes approximately 211,000 acres of DFAs, and approximately 5,023,000 acres of existing and proposed BLM conservation designations (see Table IV.1-1 and Table IV.20-1). The DFAs would be focused in the Imperial Valley, Lucerne Valley, Barstow area, and Tehachapi area. The alternative has fewer DFAs in eastern Riverside and small DFAs along the U.S. 395 corridor and near Searles Lake. Transmission development and operation activities would be permitted both inside and outside the DFAs.

Alternative 3 would primarily affect four ecoregion subareas, as summarized below.

- Visual impacts from solar development would be dispersed, with emphasis in the Imperial Borrego Valley and the West Mojave and Eastern Slopes ecoregion subareas.
- Visual impacts from wind development would be primarily in the Pinto Lucerne Valley and Eastern Slopes and the West Mojave and Eastern Slopes ecoregion subareas.
- Visual impacts from geothermal energy would occur in the Imperial Borrego Valley and Owens River Valley ecoregion subareas, the same as under the Preferred Alternative.

The visual impacts resulting from Alternative 3 are summarized below (see Appendix R2.20, Table R2.20-9 for additional detail).

Impact VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.

Preconstruction activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include road upgrading, damage to or removal of native vegetation, construction of meteorological towers, drilling of temperature gradient wells, vehicles, and lighting.

During construction and decommissioning, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include dust and exhaust emissions, removal of vegetation during site clearing, contouring and grading, presence of vehicles and equipment, mobilization and demobilization activities, material delivery and staging, assembly of components, site lighting, and construction of and later removal of structures.

Impact VR-2: The presence of project components and disturbance would result in long-term diminished scenic quality.

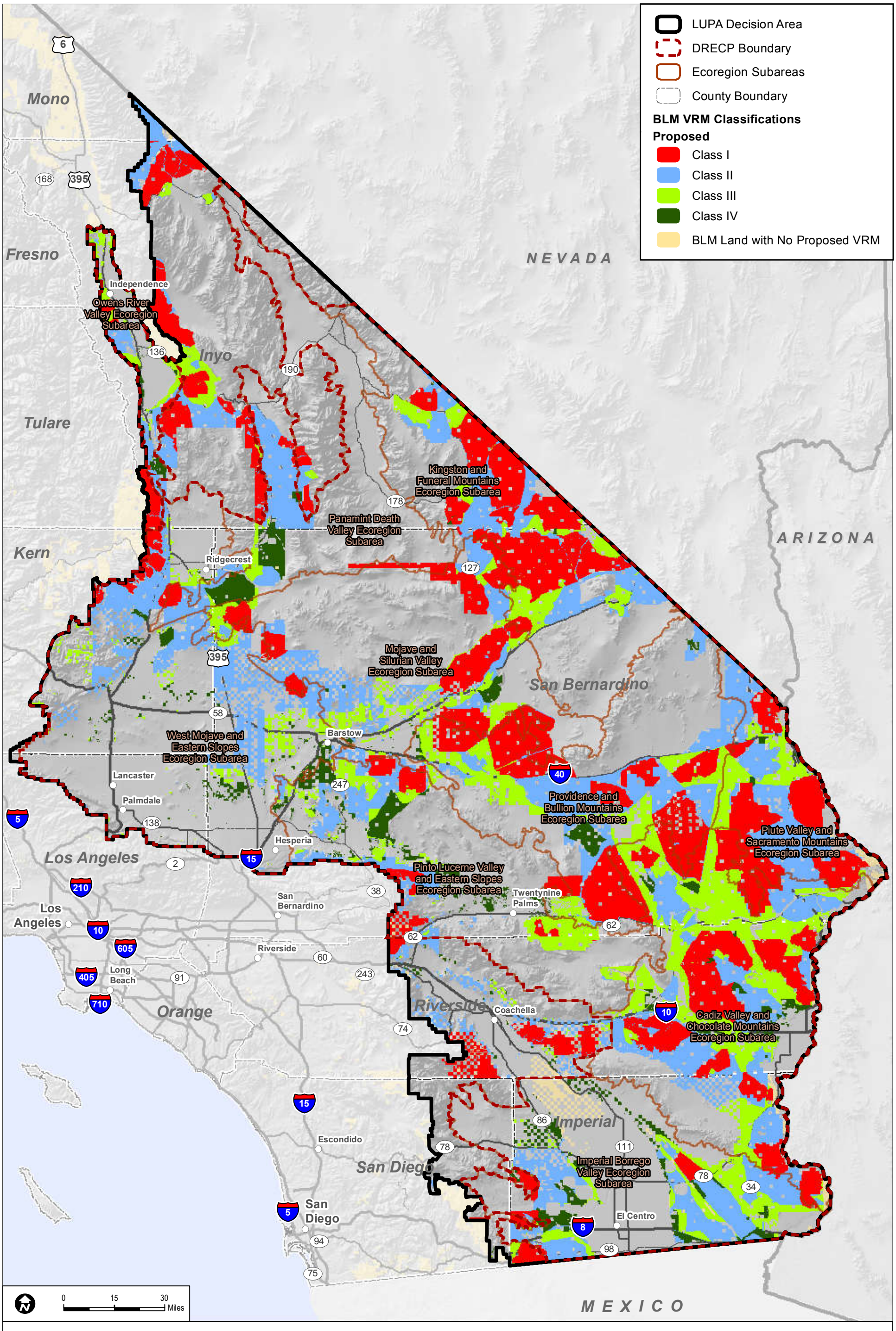
The continued presence of equipment, structures, fencing, roads, and other elements required to operate a facility would have a long-term adverse effect on the visible landscape. Areas of persistent surface and vegetation disturbance and the presence of structures would create visual contrast in form, line, color, and texture as compared with pre-project conditions. Depending on viewer location, physical elements introduced by a project could block views or create skylining. Even after project removal and site reclamation are completed, visual contrast would remain. Restoring the natural, pre-disturbance visual character of a desert environment is extremely difficult, can take decades, and often is unsuccessful. Therefore, surface and vegetation disturbance would create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes.

The structure, size, and industrial character of utility-scale renewable energy and transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a BLM LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance process before the BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under Alternative 3, there are 2,000 acres of Variance Process Lands in the LUPA Decision Area. These lands are found in the Lucerne Valley, both east and west of State Route 247.



Sources: ESRI (2014); BLM (2015); RECON (2015)

FIGURE IV.20-5
Proposed BLM Visual Resource Management Classifications – Alternative 3

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Conservation and Management Actions

The conservation strategy for Alternative 3 (presented in Volume II, Section II.6.4) includes the visual resource CMAs for the Preferred Alternative and all action alternatives. These visual resource CMAs provide a comprehensive framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

IV.20.3.5.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Alternative 3

Over 5.2 million acres of the LUPA Decision Area under Alternative 3 would be composed of conservation designations, including NLCS lands, ACECs, and wildlife allocations. This would result in the protection of visual resources because of the limitations on development incorporated in existing laws and regulations and in the CMAs associated with the BLM land designations.

Alternative 3 would establish VRM classes for all lands in the CDCA (currently, only the Bishop and Bakersfield RMPs and the Imperial Sand Dunes RAMP have VRM Classes designated). In accordance with BLM policy, all wilderness areas and WSAs are managed as VRM Class I. It would also (1) designate new NLCS lands, (2) designate new ACECs and expand and reduce existing ACECs, (3) designate new SRMAs and expand and reduce existing SRMAs, (4) create buffer corridors along NSHTs, and (5) manage lands with wilderness characteristics to protect those characteristics. The Proposed LUPA would also replace the multiple-use classes.

The VRM Classes and other BLM land designations proposed under Alternative 3 would benefit visual resources to the extent that they offer protective measures that would avoid or reduce visual impacts. As with the Preferred Alternative, CMAs for visual resources would be established and implemented. The BLM-specific CMAs proposed under the Preferred Alternative would be the same as for all action alternatives. These visual resource CMAs and the restrictions and protective measures of the land designations provide a mutually supportive framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

Under Alternative 3, trail management corridors would be established along NSHTs, at a width of generally 5 miles from the centerline of the trail, for a total width of 10 miles (compared to a narrower width of 2 miles under the Preferred Alternative). As discussed in Volume II, Section II.3.2.1.2, these trail management corridors would be managed as components of the BLM's NLCS lands. Where national trails overlap other NLCS lands, the more protective CMAs or land use allocations would apply. All trail management corridors

would be designated as VRM Class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state-of-the-art VRM BMPs for renewable energy would be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.

The following summarizes the key points of the impacts of changes to BLM land designations and lands with wilderness characteristics on visual resource elements under Alternative 3 (see Appendix R2, Table R2.20-10 for detailed, quantitative data and analysis):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural, and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands with which they coincide (3.6 million acres).
- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 1.9 million acres).
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class III and IV lands with which they coincide (approximately 13,000 acres).
- **Lands Managed for Wilderness Characteristics:** Under Alternative 3, these lands would be managed as VRM Class II. Other management strategies to protect the wilderness characteristics of lands would benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 374,000).
- **Trail Management Corridors:** As with the Preferred Alternative, the trail management corridors would be managed to meet the visual management objectives of VRM Class II under Alternative 3. The primary effect of a 10-mile-wide corridor under Alternative 3 would be to provide a higher level of protection (VRM Class II objectives) to approximately 887,000 acres of VRM Class III and IV lands that would otherwise be managed under less restrictive visual management objectives.
- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands with which they coincide (approximately 428,000 acres).

Alternative 3 would assign VRM classes to all BLM lands within the LUPA Decision Area. The relationship between the proposed management classes and the underlying existing inventory classes is discussed in this section.

Under Alternative 3, VRI Class lands within the proposed VRM Classes on BLM LUPA lands would be as indicated in Table IV.20-10.

Key points of the effects of VRM classifications on VRI lands under Alternative 3 are summarized here:

- **VRM designations:** The majority of lands would be designated as VRM Class I, II, or III. Less than 10% would be designated as VRM Class IV.
- **VRI Class I:** the majority of VRI Class I lands (97%) would be managed as VRM Class I, reflecting a high level of management protection.
- **VRI Class II:** As with the Preferred Alternative, approximately 72% of VRI Class II lands would be managed as VRM Class II or I, reflecting a moderately high level of management protection. Approximately 25% would be managed as VRM Class III or IV, which allows for more visual contrast and impact than the VRM Class II objectives allow.
- **VRI Class III:** Approximately 90% of VRI Class III lands would be managed as VRM Class III or II, reflecting a high correlation and level of management protection.

  Approximately 55% would be managed to meet VRM Class II objectives, which restrict visual contrast and impact more than VRM Class III. Approximately 10% would be managed as VRM Class IV, which allows for more visual contrast and impact than the VRM Class III objectives allow.
- **VRI Class IV:** Approximately 85% of VRI Class IV lands would be managed as VRM Class III, II, or I; 15% would be VRM Class IV.

Under the proposed CMAs, all DFAs would be managed as VRM Class IV lands to allow for industrial-scale development. In those cases, implementation or incorporation of BMPs would still be required to reduce the visual contrast levels of proposed facilities to the extent practicable.

IV.20.3.5.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area would be the same under all alternatives. These are as described for the No Action Alternative in Section IV.20.3.1.3.

Table IV.20-10
VRI Classes within Proposed VRM Classes in the LUPA Decision Area – Alternative 3

Proposed LUPA VRM Class Designations	Existing Visual Resource Inventory Classes								Total
	VRI Class I		*VRI Class II*		*VRI Class III*		*VRI Class IV*		
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	
VRM Class I	3,885,000	97%	7,000	0%	3,000	0%	800	0%	**3,896,000**
VRM Class II	73,000	2%	1,565,000	72%	1,520,000	55%	865,000	44%	**4,023,000**
VRM Class III	33,000	1%	536,000	25%	971,000	35%	797,000	41%	**2,338,000**
VRM Class IV	0	0%	72,000	3%	274,000	10%	297,000	15%	**644,000**
Total	**3,992,000**	**100%**	**2,180,000**	**100%**	**2,769,000**	**100%**	**1,960,000**	**100%**	**10,901,000**

Note: VRI Class I represents the highest level of inventoried visual resource values; VRM Class I represents the most restrictive visual management objectives. The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

IV.20.3.5.4 Comparison of Alternative 3 with Preferred Alternative

Although similar visual impacts would occur under both Alternative 3 and the Preferred Alternative, the impacts would vary in key ways, as summarized below.

Geographic Distribution. As with the DFAs of the Preferred Alternative, the DFAs under Alternative 3 are restricted in distribution and concentrated in areas considered less environmentally sensitive. Similar to the Preferred Alternative, DFAs under Alternative 3 are focused in the Imperial Valley, Lucerne Valley, Barstow area, and Tehachapi area.

The severity of visual impacts depends partly on the number of potential viewers. Alternative 3 has smaller DFAs than the Preferred Alternative in and near the populated West Mojave area. As a result, somewhat reduced amounts of wind and solar development would be expected by residents in the Mojave, Lancaster, and Palmdale areas.

The severity of visual impacts also relates to expectations of viewers seeking pristine desert vistas. The eastern and northeastern parts of the LUPA Decision Area are sensitive because they contain the Mojave National Preserve, Death Valley National Monument, and several BLM wilderness areas. Alternative 3 has no DFAs in these areas. The Preferred Alternative's large DFA in the East Riverside area (close to Joshua Tree National Park and BLM wilderness areas) is substantially smaller under Alternative 3.

Extent of Potential Renewable Energy Development. Although the geographic distribution of DFAs is generally similar under Alternative 3 and the Preferred Alternative, the size of the DFAs varies among these alternatives. The DFAs are 177,000 acres larger under the Preferred Alternative (388,000 acres of DFAs versus 211,000 acres under Alternative 3). Because the Preferred Alternative has larger areas of DFAs within which development could be located, these projects could be visible from more areas of the desert than under Alternative 3.

The following summarizes the key points in comparing the visual impacts from renewable energy and transmission development under Alternative 3 with those of the Preferred Alternative (see Appendix R2. Table R2.20-9 for detailed data):

- **VRI Classes:** There would be no VRI Class I lands, 5,000 acres of VRI Class II lands, 20,000 acres of VRI Class III lands, and 25,000 acres of VRI Class IV lands within DFAs under Alternative 3. Per the CMAs for visual resources, these 25,000 acres of VRI Class II and III lands within DFAs would be managed as VRM Class IV and thereby sustain a potential degradation of underlying scenic values.

  A much larger amount of VRI Class II and III lands within DFAs would be managed as VRM Class IV under the Preferred Alternative than under Alternative 3. This

reflects a potential for degradation of underlying scenic values under Alternative 3, but to a lesser extent than under the Preferred Alternative.

- **VRM Classes:** As with the Preferred Alternative, there would be no VRM Class I, II, or III lands in DFAs under Alternative 3 (see Figure IV.20-5). Approximately 12,000 acres of transmission would occur on VRM Classified lands compared with a slightly larger amount of 13,000 acres under the Preferred Alternative.
- **National Parks and Preserves:** These lands would not be within the DFA footprint under Alternative 3 or the Preferred Alternative. Although the footprint of renewable energy projects would not directly affect these lands, project facilities and activities that are visible from national parks and preserves would diminish scenic quality for viewers in those conservation areas, where expectations for scenic quality are typically high.
- **National Scenic Byways:** No segments of the Bradshaw Trail National Back Country Byway would be within DFAs under either Alternative 3 or the Preferred Alternative.
- **National Scenic and Historic Trails:** DFAs would not occur within the Old Spanish National Historic Trail alignment or pacific Crest Trail alignment. Approximately 0.5 mile of the Juan Bautista de Anza Trail alignment would be within DFAs in the LUPA Decision Area under Alternative 3 compared with 0.2 mile under the Preferred Alternative.
- **Wild and Scenic Rivers:** No portion of designated or eligible wild and scenic rivers would be within DFAs under Alternative 3 or the Preferred Alternative.
- **Proximity of Visual Resources to DFAs.** Under Alternative 3, visual resource elements within 5 miles of proposed DFAs can be compared with those under the Preferred Alternative, as summarized in Table IV.20-11. Alternative 3 has generally fewer visual resource elements within 5 miles of DFAs than the Preferred Alternative. One example of this is the acres of VRI Class I: 322,000 acres under the Preferred Alternative compared with 206,000 acres under Alternative 3. For trail management corridors, there is a smaller area within this 5-mile proximity under the Preferred Alternative as under Alternative 3.

Conservation Designations. Alternative 3 has slightly more acreage in conservation designations than the Preferred Alternative. Thus, Alternative 3 could provide more land in conservation than the Preferred Alternative. These would be lands in which scenic values would benefit from the management and restrictions that would apply to those conserved areas. The conservation strategy is similar to that of the Preferred Alternative with emphasis on avoidance and compensation.

There would be approximately 5,039,000 acres of conservation designations under Alternative 3. This represents a greater level of conservation than the Preferred Alternative.

In general, visual resource elements would be beneficially affected by the conservation policies and requirements of these lands. Alternative 3 has more acres of BLM LUPA conservation designations than the Preferred Alternative and has the least number of acres of SRMAs of all action alternatives.

Table IV.20-11
Affected Visual Resources – Preferred Alternative Compared to Alternative 3

	Preferred Alternative	Alternative 3
Development Areas (acres)		
DFAs	388,000	211,000
Visual Resource Elements Within Development Areas (acres unless otherwise indicated)		
VRI [Class]	0 [I] 19,000 [II] 53,000 [III] 28,000 [IV]	0 [I] 5,000[II] 20,000 [III] 25,000 [IV]
VRM [Class]	0 [I] 2,000 [II] 5,000 [III] 93,000 [IV]	0 [I] 0 [II] 0 [III] 50,000 [IV]
National Scenic Byways	0	0
National Scenic and Historic Trails	1 mi.	2 mi.
Wild and Scenic Rivers	0	0
Visual Resource Elements Within 5 miles of Development Areas (acres unless otherwise indicated)		
VRI [Class]	322,000 [I] 388,000 [II] 645,000 [III] 680,000 [IV]	206,000 [I] 406,000 [II] 715,000 [III] 701,000 [IV]
VRM [Class]	309,000[I] 409,000 [II] 674,000 [III] 652,000 [IV]	191,000 [I] 652,000 [II] 696,000 [III] 434,000 [IV]
National Scenic Byways	9 mi.	7 mi.
National Parks and Preserves	14,000	15,000
National Scenic and Historic Trails	240 mi.	295 mi.
Trail Management Corridors	158,000	525,000
Wild and Scenic Rivers	0	0
BLM Conservation Designations (acres)		
Existing and Proposed	4,982,000	5,039,000

BLM Conservation Designations: Include existing and proposed NLCS, ACECs, and wildlife allocations
Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to

the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

The following summarizes the key points in comparing Alternative 3 visual impacts of the BLM land designations and lands with wilderness characteristics with those of the Preferred Alternative (see Appendix R2, Table R2.20-10 for detailed, quantitative data and analysis):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural, and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands with which they coincide (3.6 million acres, compared to a similar amount of 3.9 million acres under the Preferred Alternative).
- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 1.9 million acres, compared with a smaller area of 1.4 million acres under the Preferred Alternative).
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class III and IV lands with which they coincide (approximately 13,000 acres, compared with a larger amount of 18,000 acres under the Preferred Alternative).
- **Lands Managed for Wilderness Characteristics:** Under Alternative 3, these lands would be managed as VRM Class II. Other management strategies to protect the wilderness characteristics of lands would benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 374,000 acres, compared with 545,000 acres under the Preferred Alternative).
- **Trail Management Corridors:** As with the Preferred Alternative, the trail management corridors would be managed to meet the visual management objectives of VRM Class II under Alternative 3. The primary effect of a 10-mile-wide corridor under Alternative 3 would be to provide a higher level of protection (VRM Class II objectives) to approximately 887,000 acres of VRM Class III and IV lands that would otherwise be managed under less restrictive visual management objectives.
- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands with which they coincide (approximately 428,000 acres, compared with 384,000 acres under the Preferred Alternative).

Alternative 3 would assign VRM Classes to all BLM lands within the CDCA, as would the Preferred Alternative. For both alternatives, this would provide a unifying framework and an established system for addressing visual resources.

The key difference is that Alternative 3 would have a smaller amount of VRI Class II and III lands (approximately 25,000 acres) in DFAs than would the Preferred Alternative (72,000 acres). This difference in the potential area of land disturbance impacts would result in fewer areas potentially subject to visual impacts under Alternative 3 than under the Preferred Alternative. Alternative 3 would provide a greater level of protection of the scenic values and viewer experience along NSHTs by its 10-mile-wide trail management corridors than would be provided by the 4-mile width of the Preferred Alternative.

Alternative 3 includes 211,000 acres of DFAs and 5,039,000 acres of conservation designations. For reference, Table IV.20-11 compares the Preferred Alternative to Alternative 3 for key visual elements. Compared to the Preferred Alternative, Alternative 3 would result in a similar level of correlation between VRI values and the proposed VRM Classes. An exception to this is the management of VRI Class IV lands. A higher percentage of these areas would be managed as VRM Class III, II, or I under Alternative 3 than under the Preferred Alternative. Overall, visual resource protection would benefit under Alternative 3 by the designation of VRM Classes throughout the CDCA.

In summary, the composition and structure of Alternative 3 would provide greater opportunities for the avoidance, reduction, and minimization of visual impacts from renewable energy development than the Preferred Alternative.

IV.20.3.6 Alternative 4

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission on BLM-managed land under the LUPA and the impacts of the amended land use plans themselves.

IV.20.3.6.1 Impacts of Renewable Energy and Transmission Development –Alternative 4

Proposed VRM Classifications under Alternative 4 are shown in Figure IV.20-6. Alternative 4 includes approximately 258,000 acres of DFAs, and approximately 4,431,000 acres of existing and proposed BLM conservation designations (see Table IV.1-1 and Table IV.20-1). The DFAs are focused in the Imperial Valley, Lucerne Valley, Barstow area, and Tehachapi area. It has fewer DFAs in eastern Riverside and very small DFAs along the U.S. 395 corridor and near Searles Lake.

Alternative 4 would primarily affect four ecoregion subareas, as summarized below.

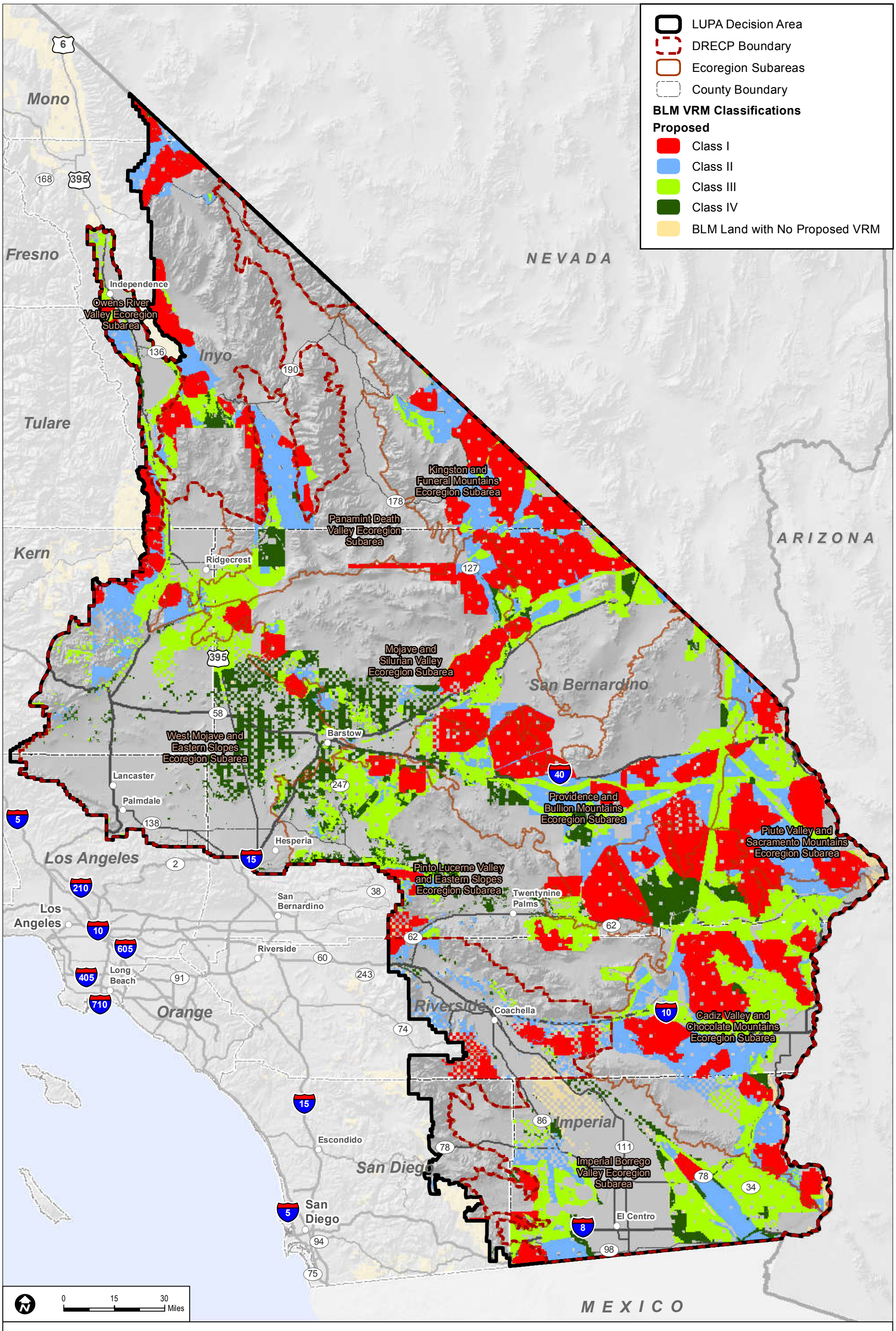
- Visual impacts from solar development would dispersed, with emphasis in two ecoregion subareas: (1) Imperial Borrego Valley and (2) West Mojave and Eastern Slopes.
- Visual impacts from wind development would be in two ecoregion subareas: (1) Pinto Lucerne Valley and Eastern Slopes and (2) West Mojave and Eastern Slopes.
- Visual impacts from geothermal energy would occur in in two ecoregion subareas: (1) Imperial Borrego Valley and (2) Owens River Valley, the same as under the Preferred Alternative.

The visual impacts resulting from Alternative 4 are summarized below (see Appendix R2.20, Table R2.20-11 for additional detail).

Impact VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.

Preconstruction activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include road upgrading, damage to or removal of native vegetation, construction of meteorological towers, drilling of temperature gradient wells, vehicles, and lighting.

During construction and decommissioning, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include dust and exhaust emissions, removal of vegetation during site clearing, contouring and grading, presence of vehicles and equipment, mobilization and demobilization activities, material delivery and staging, assembly of components, site lighting, and construction of and later removal of structures.



Sources: ESRI (2014); BLM (2015); RECON (2015)

FIGURE IV.20-6
Proposed BLM Visual Resource Management Classifications – Alternative 4

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Impact VR-2: The presence of project components and disturbance would result in long-term diminished scenic quality.

The continued presence of equipment, structures, fencing, roads, and other elements required to operate a facility would have a long-term adverse effect on the visible landscape. Areas of persistent surface and vegetation disturbance and the presence of structures would create visual contrast in form, line, color, and texture as compared with pre-project conditions. Depending on viewer location, physical elements introduced by a project could block views or create skylining. Even after project removal and site reclamation are completed, visual contrast would remain. Restoring the natural, pre-disturbance visual character of a desert environment is extremely difficult, can take decades, and often is unsuccessful. Therefore, surface and vegetation disturbance would create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes.

The structure, size, and industrial character of utility-scale renewable energy and transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a BLM LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance process before the BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under Alternative 4, there are 579,000 acres of Variance Process Lands in the LUPA Decision Area. These lands are found in the following areas:

- East of Highway 395, north of Independence in Inyo County
- South of Sandy Valley along the California/Nevada border
- West of Needles
- Near State Route 62, west of Parker, Arizona, near the California/Arizona border
- North of Blythe, immediately south of the Big Maria Mountains Wilderness
- South of State Route 98, east of Imperial Valley, along the California/Mexico border
- North of Hidden Hills along the California/Nevada border

- North of Interstate 15, east of Fort Irwin
- Surrounding the Owens Dry Lake
- East of California City, north of Edward Air Force Base
- Surrounding Barstow
- Scattered around Adelanto, Victorville, and in Lucerne Valley
- East and west of the City of Twentynine Palms
- South of Interstate 40 near Ludlow
- South of Historic Route 66, east of MCAGCC Twentynine Palms
- North of the Rice Valley Wilderness and Big Maria Mountains Wilderness along State Route 62
- South of Interstate 10, east of the Chuckwalla Mountains Wilderness
- South of Interstate 10, immediately north of the Palo Verde Mountains Wilderness
- Scattered west and south of the Chocolate Mountains east of the Imperial Sand Dunes, including east of Holtville and south of State Route 98

Conservation and Management Actions

The conservation strategy for Alternative 4 (presented in Volume II, Section II.7.4) includes the visual resource CMAs for the Preferred Alternative and all action alternatives. These visual resource CMAs provide a comprehensive framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

IV.20.3.6.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Alternative 4

Almost 4.7 million acres of the LUPA Decision Area under Alternative 4 would be composed of conservation designations, including NLCS lands, ACECs, and wildlife allocations. This would result in the protection of visual resources because of the limitations on development incorporated in existing laws and regulations and in the CMAs associated with the BLM land designations.

Alternative 4 would establish VRM Classes for all lands in the CDCA (currently, only the Bishop and Bakersfield RMPs and the Imperial Sand Dunes RAMP have VRM Classes designated). In accordance with BLM policy, all wilderness areas and WSAs are managed as VRM Class I. It would also (1) designate new NLCS lands; (2) designate new ACECs and expand and reduce existing ACECs; (3) designate new SRMAs and expand and reduce

existing SRMAs; and (4) create buffer corridors along NSHTs. The Proposed LUPA would also replace the multiple-use classes.

The VRM Classes and other BLM land designations proposed under Alternative 4 would offer protective measures that would avoid or reduce visual impacts. As with the Preferred Alternative, CMAs for visual resources would be established and implemented. The BLM-specific CMAs proposed for the Preferred Alternative would be the same as for all action alternatives. These visual resource CMAs and the restrictions and protective measures of the land designations provide a framework of guidelines and specifications through which visual impacts would be avoided where possible, minimized, and/or mitigated to the extent practicable.

Under Alternative 4, trail management corridors would be established along NSHTs, at a width of generally 1 mile from the centerline of the trail, for a total width of 2 miles, the same as the Preferred Alternative. As discussed in Volume II, Section II.3.2.1.2, these trail management corridors would be managed as components of the BLM's NLCS. Where national trails overlap other NLCS lands, the more protective CMAs or land use allocations would apply. All trail management corridors would be designated as VRM Class II, except within approved transmission corridors (VRM Class III) and DFAs (VRM Class IV). However, state-of-the-art VRM BMPs for renewable energy would be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.

The following summarizes the key points of the impacts of changes to BLM land designations and lands with wilderness characteristics on visual resource elements under Alternative 4 (see Appendix R2, Table R2.20-12 for detailed, quantitative data and analysis):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands with which they coincide (approximately 2.8 million acres).
- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 1.7 million acres).
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class III and IV lands with which they coincide (approximately 267,000 acres).

- **Lands Managed for Wilderness Characteristics:** These lands would be managed as VRM Class II. Other management strategies to protect the wilderness characteristics of these lands would benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 255,000 acres).
- **Trail Management Corridors:** The primary effect of the 2-mile-wide corridors under Alternative 4 would be to provide a consistent framework for protecting and managing scenic values along national scenic trails within national park and California State Park lands. The Preferred Alternative would also have a 2-mile corridor. These trail management corridors would be managed to meet the visual management objectives of VRM Class II.
- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands with which they coincide (approximately 459,000 acres).

Alternative 4 would assign VRM classes to all BLM lands within the LUPA Decision Area. Under Alternative 4, VRI Class lands within the proposed VRM Classes on BLM-managed lands would be as indicated in Table IV.20-12. The following summarizes the key points of the effects of VRM classifications on VRI lands under Alternative 4:

- **VRM designations:** The majority of lands would be designated as VRM Class I, II, or III, and 11% would be designated as VRM Class IV.
- **VRI Class I:** As with the Preferred Alternative, 100% of VRI Class I lands would be managed as VRM Class I, reflecting the highest level of management and visual resource protection.
- **VRI Class II:** As with the Preferred Alternative, more than 70% of VRI Class II lands would be managed as VRM Class II or I, reflecting a moderately high level of management protection. Approximately 27% would be managed as VRM Class III or IV, which allows for more visual contrast and impact than the VRM Class II objectives allow.
- **VRI Class III:** Approximately 94% of VRI Class III lands would be managed as VRM Class III, II, or I, reflecting a high correlation and level of management protection. Approximately 23% would be managed to meet VRM Class II objectives, which restrict visual contrast and impact more than VRM Class III does. Approximately 6% would be managed as VRM Class IV, which allows for more visual contrast and impact than the VRM Class III objectives.
- **VRI Class IV:** More than 51% of VRI Class IV lands would be managed as VRM Class III, II, or I; 49% would be VRM Class IV.

Table IV.20-12
VRI Classes within Proposed VRM Classes in the LUPA Decision Area – Alternative 4

Proposed LUPA VRM Class Designations	Existing Visual Resource Inventory Classes								Total
	VRI Class I		*VRI Class II*		*VRI Class III*		*VRI Class IV*		
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	
VRM Class I	3,843,000	100%	7,000	0%	3,000	0%	1,000	0%	3,854,000
VRM Class II	2,000	0%	1,585,000	73%	632,000	23%	201,000	10%	2,420,000
VRM Class III	—	0%	533,000	24%	1,963,000	71%	802,000	41%	3,298,000
VRM Class IV	—	0%	59,000	3%	166,000	6%	957,000	49%	1,182,000
Total	**3,845,000**	**100%**	**2,185,000**	**100%**	**2,764,000**	**100%**	**1,961,000**	**100%**	**10,754,000**

Note: VRI Class I represents the highest level of inventoried visual resource values; VRM Class I represents the most restrictive visual management objectives. The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

Under the proposed CMAs, all DFAs would be managed as VRM Class IV lands, to allow for utility-scale development. In those cases, implementation or incorporation of BMPs would still be required to reduce the visual contrast levels of proposed facilities to the extent practicable.

IV.20.3.6.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area would be the same under all alternatives. These are as described for the No Action Alternative in Section IV.20.3.1.3.

IV.20.3.6.4 Comparison of Alternative 4 with Preferred Alternative

Although similar visual impacts would occur under both Alternative 4 and the Preferred Alternative, the impacts would vary in key ways, as summarized below.

Geographic Distribution. As with the Preferred Alternative, visual impacts of DFAs under Alternative 4 would be concentrated in areas considered less environmentally sensitive. DFAs under Alternative 4 would be geographically dispersed on public and private lands with an assumption of somewhat more solar and less wind project development than the Preferred Alternative. Solar energy development would be concentrated in one ecoregion subarea, the Cadiz Valley and Chocolate Mountains, as opposed to two under the Preferred Alternative; and there would be less development overall in the Imperial Borrego Valley ecoregion subarea.

The severity of visual impacts depends partly on the number of potential viewers. Alternative 4 has DFAs similar to the Preferred Alternative in and near the populated West Mojave area. Alternative 4 also includes DFAs similar to those of the Preferred Alternative in the areas surrounding Victorville, Adelanto, and Lucerne Valley.

The severity of visual impacts also relates to expectations of viewers seeking pristine desert vistas. The eastern and northeastern parts of the LUPA Decision Area are sensitive because they contain the Mojave National Preserve, Death Valley National Monument, and several BLM wilderness areas. Alternative 4 includes the Pahrump Valley DFA. Both the Preferred Alternative and Alternative 4 have a large DFA in the East Riverside area (close to Joshua Tree National Park and BLM wilderness areas).

Extent of Potential Renewable Energy Development. Although the geographic distribution of DFAs would be generally similar under both Alternative 4 and the Preferred Alternative, the scale and extent of the DFAs vary. DFAs are approximately 130,000 acres larger under the Preferred Alternative (388,000 acres of DFAs) than under Alternative 4 (258,000 acres of DFAs). This smaller area within which development could occur would

result in fewer areas potentially subject to visual impacts under Alternative 4 than under the Preferred Alternative.

The following summarizes the key points in comparing the visual impacts from renewable energy and transmission development under Alternative 4 to those of the Preferred Alternative (see Appendix R2, Table R2.20-11 for detailed, quantitative data and analysis):

- **VRI Classes:** There would be approximately 17,000 acres of VRI Class II lands, 57,000 acres of VRI Class III lands, 10,000 acres of VRI Class IV lands, and no VRI Class I lands within DFAs under Alternative 4. Per the CMAs for visual resources, these 74,000 acres of VRI Class II and III lands within DFAs would be managed as VRM Class IV and thereby sustain a potential degradation of underlying scenic values. Approximately 14,000 acres of transmission would occur on inventoried lands, compared with 13,000 acres under the Preferred Alternative.

  A slightly larger amount of VRI Class II and III lands within DFAs would be managed as VRM Class IV under Alternative 4 (74,000 acres) than under the Preferred Alternative (73,000 acres). This reflects a potential for degradation of underlying scenic values under Alternative 4 to a slightly greater extent than under the Preferred Alternative.
- **VRM Classes:** As with the Preferred Alternative, there would be no VRM Class I, II, or III lands in DFAs under Alternative 4 (see Figure IV.20-6). Approximately 14,000 acres of transmission would occur on VRM lands under Alternative 4 and the Preferred Alternative.
- **National Parks and Preserves:** These lands would not be within the DFA footprint under Alternative 4 or the Preferred Alternative. Although the footprint of renewable energy projects would not directly affect these lands, project facilities and activities that are visible from national parks and preserves would diminish scenic quality for viewers in those conservation areas, where expectations for scenic quality are typically high.
- **National Scenic Byways:** No segments of the Bradshaw Trail National Back Country Byway would be within DFAs under either Alternative 4 or the Preferred Alternative.
- **National Scenic and Historic Trails:** Approximately 0.1 mile of the Juan Batista de Anza Trail would be within DFAs in the LUPA Decision Area under Alternative 4, similar to the Preferred Alternative.
- **Wild and Scenic Rivers:** No portion of designated or eligible wild and scenic rivers would be within DFAs under Alternative 4 or the Preferred Alternative.
- **Proximity of Visual Resources to DFAs.** Under Alternative 4, visual resource elements within 5 miles of proposed DFAs can be compared with those under the Preferred Alternative, as summarized in Table IV.20-13. Alternative 4 has similar

amounts of visual resource elements within 5 miles of DFAs as the Preferred Alternative. An exception is trail management corridors.

Conservation Designations. Alternative 4 has a similar amount of land in conservation designations as the Preferred Alternative. Thus, Alternative 4 would potentially provide similar amounts of land in conservation as the Preferred Alternative, lands in which scenic values would benefit from the management and restrictions that would apply to those conserved areas. An exception is that Alternative 4 would provide less than one-third the amount of land in trail management corridors as compared with the Preferred Alternative.

The following summarizes the key points in comparing Alternative 4 visual impacts of BLM land designations and lands with wilderness characteristics to those of the Preferred Alternative (see Appendix R2, Table R2.20-12 for detailed, quantitative data and analysis):

- **NLCS:** The management of these lands that have nationally significant ecological, cultural and scientific values would offer additional protection of intactness and scenic quality, particularly to the VRI Class I, II, III, and IV lands with which they coincide (approximately 2.8 million acres, compared with a larger area of 3.9 million acres under the Preferred Alternative).
- **ACECs:** The special management measures given to protect the important historic, cultural, and scenic values of these areas would generally benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 1.7 million acres, compared with a smaller amount of 1.4 million acres under the Preferred Alternative).
- **Wildlife Allocation Areas:** The management of these areas must be compatible with protection and enhancement of wildlife and plant habitat and would generally benefit visual resources, particularly the VRI Class III and IV lands with which they coincide (approximately 267,000 acres, compared with a smaller amount of 18,000 acres under the Preferred Alternative).
- **Lands Managed for Wilderness Characteristics:** These lands would be managed as VRM Class II. Other management strategies to protect the wilderness characteristics of these lands would benefit visual resources, particularly the VRI Class II, III, and IV lands with which they coincide (approximately 255,000 acres under Alternative 4, compared with 545,000 acres under the Preferred Alternative).
- **Trail Management Corridors:** The primary effect of the 2-mile-wide corridors under Alternative 4 would be to provide a consistent framework for protecting and managing scenic values along national scenic trails within national park and California State Park lands. The Preferred Alternative would also have a 2-mile

corridor. These trail management corridors would be managed to meet the visual management objectives of VRM Class II.

- **SRMAs:** There would be the potential for recreational activities or facilities allowed in SRMAs to affect scenic values, particularly those of the VRI Class I and II lands with which they coincide (approximately 459,000 acres, compared with 384,000 acres under the Preferred Alternative).

The Proposed LUPA under Alternative 4 would assign VRM Classes to all BLM lands within the LUPA Decision Area as would the Preferred Alternative. For both alternatives, this would provide a unifying framework and an established system for addressing visual resources.

Alternative 4 would have more acres of VRI Class II and III lands in DFAs (approximately 74,000 acres) compared with the Preferred Alternative (73,000 acres). This would result in a higher potential for visual impacts under Alternative 4 than under the Preferred Alternative.

Alternative 4 includes 258,000 acres of DFAs and 4,446,000 acres of BLM conservation designations. For reference, Table IV.20-13 compares the Preferred Alternative to Alternative 4 for key visual elements.

Table IV.20-13
Affected Visual Resources – Preferred Alternative Compared to Alternative 4

	Preferred Alternative	Alternative 4
Development Areas (acres)		
DFAs	388,000	258,000
Visual Resource Elements Within Development Areas (acres unless otherwise indicated)		
VRI [Class]	0 [I] 19,000 [II] 53,000 [III] 28,000 [IV]	0 [I] 200[II] 3,000 [III] 2,000 [IV]
VRM [Class]	0 [I] 2,000 [II] 5,000 [III] 93,000 [IV]	0 [I] 0 [II] 0 [III] 5,000 [IV]
National Scenic Byways	0	0
National Scenic and Historic Trails	1 mi.	1 mi.
Wild and Scenic Rivers	0	0
Visual Resource Elements Within 5 miles of Development Areas (acres unless otherwise indicated)		
VRI [Class]	322,000 [I] 388,000 [II] 645,000 [III] 680,000 [IV]	346,000 [I] 386,000 [II] 711,000 [III] 706,000 [IV]

Table IV.20-13
Affected Visual Resources – Preferred Alternative Compared to Alternative 4

	Preferred Alternative	Alternative 4
VRM [Class]	309,000[I] 409,000 [II] 674,000 [III] 652,000 [IV]	330,000 [I] 396,000 [II] 808,000 [III] 585,000 [IV]
National Scenic Byways	9 mi.	13 mi.
National Parks and Preserves	14,000	16,000
National Scenic and Historic Trails	240 mi.	329 mi.
Trail Management Corridors	158,000	193,000
Wild and Scenic Rivers	0	0
BLM Land Designations (acres)		
Conservation Lands	4,982,000	4,446,000

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total in the table.

Compared to the Preferred Alternative, Alternative 4 would result in a similar level of correlation between VRI values and the proposed VRM Classes. An exception to this is the management of VRI Class III lands. A higher percentage of these areas would be managed as VRM Class III, II, or I under Alternative 4 than under the Preferred Alternative. The designation of VRM Classes throughout the CDCA would have the value of providing the level of visual change allowed prior to an area being considered for actions that would introduce change. Currently, VRM Classes are designated only for the Bishop and Bakersfield field offices and the Imperial Sand Dunes RAMP.

In summary, the composition and structure of Alternative 4 would provide similar opportunities for the avoidance of, and compensation for, visual impacts from renewable energy development, but would result in greater impacts from transmission corridors compared with the Preferred Alternative.